# EIGHTH YEAR ANNUAL REPORT

INTERSTATE POLLUTION CONTROL/ROTO-ROOTER SUPERFUND SITE
Winnebago County
Rockford, Illinois

Prepared for:

Interstate Pollution Control/Roto-Rooter Superfund Site Remedial Design/Remedial Action Steering Committee

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# 1.0 INTRODUCTION

This Eighth Year Annual Report ("report") was prepared by Environmental Information Logistics, LLC (EIL) on behalf of the Interstate Pollution Control/Roto-Rooter ("IPC") Superfund Site Remedial Design/Remedial Action Steering Committee. This report discusses the results of long-term natural attenuation monitoring through the second quarter (June) 2015 sampling event, and satisfies the requirements of the IEPA-approved Groundwater Monitoring Work Plan ("GWMP"), dated March 1, 2006, the IEPA-approved First Year Annual Report/Technical Memorandum ("Tech Memo"), dated August 28, 2008, and the Consent Decree (with Appendix B – Statement of Work (SOW)) with the State of Illinois, dated March 1, 2006.

Section 6.0 of the IEPA-approved GWMP states the following:

> *"Annual reports will be prepared and submitted to the IEPA within 45 days of completing each second semi-annual groundwater sampling event (except in years 1, 5, 10, 15, etc., as discussed above and below). Each of the annual reports will include a summary of groundwater data collected during the past year and will include an evaluation, based on the IEPA-approved statistical methodology, of the source of any statistically significant changes to groundwater quality. Where appropriate, the annual report may also recommend changes to the statistical methodology for future monitoring events."*

Section 6.0 of the IEPA-approved GWMP also states the following:

> *"Five-year review reports will be submitted to the IEPA within 45 days of completing the second semi-annual sampling event at the end of each five-year cycle. Each five-year review report will include a cumulative summary of the results of statistical analysis of that data, and an evaluation of the source of any statistically significant changes to groundwater quality."*

This is the eighth annual report prepared since natural attenuation groundwater monitoring began at the site. This report includes an alternative source demonstration (ASD) to address the presence during this reporting period of 1,1-DCA and vinyl chloride in downgradient monitoring wells MW1 and MW4, even though the concentrations are currently below calculated background standards.

## 1.1 Site Description and Background

### *1.1.1 Site Description*

The Interstate Pollution Control Inc. (IPC) site ("the site") is located in an industrial area in the south central part of Rockford, Winnebago County, Illinois north west of Magnolia Peoples Avenue, as shown on the figure included in Attachment 1. The small (approximately 2.8 acre), irregularly-shaped site measures approximately 850 feet long along the north boundary line and 270 feet along the east boundary line.

During IPC's operation of the site it contained, at various times, at least six underground storage tanks, one large above-ground storage tank, an unlined surface impoundment, a gas fired incinerator, and several structures. IPC's operation at the site included transporting and bulking of waste oils, solvents and cyanide waste for incineration, resale and/or off-site disposal. Also during IPC's operation of the site, support service was provided to two sister companies; a portable toilet business and a Roto-Rooter franchise. Prior to IPC's operations, the site was extensively quarried and backfilled with various materials including a large quantity of foundry sand. Following filling of the quarry and immediately prior to IPC's operations, the site was the location of an auto salvage yard.

In 1991, private parties negotiated a Partial Consent Decree with the Illinois EPA and the Attorney General of the State of Illinois. The Partial Consent Decree required that the private parties ("Respondents") undertake a Remedial Investigation/Feasibility Study ("RI/FS") at the site. The RI Work Plan was completed in 1992, and the field investigations were conducted in 1993-1994. The final RI Report was submitted in 1997.

Significant removal actions have occurred at the IPC site on two different occasions. The incinerator was removed between 1976 and 1979. IPC conducted partial cleanup of the site in 1979 and 1980, in response to an Illinois Pollution Control Board Order. During this partial cleanup of the site, several bulk tankers containing wastes, approximately 180 $yds^3$ of material from the surface impoundment, and approximately 120 $yd^3$ of cyanide-contaminated soils were removed. Reportedly, 1,200 drums of contaminated materials were also removed from the site during this cleanup. The surface impoundment was backfilled and graded.

On August 6, 1991, the U.S. EPA issued a Unilateral Administrative Order ("UAO") to IPC and the Respondents to conduct additional removal activities at the site. Beginning in 1992, the Respondents to the UAO fenced the site, removed over 1,400 tons of solid and hazardous waste (including visibly stained soils), demolished and removed all above-ground and underground tanks and significant structures, installed a clay cover over the former impoundments, and substantially cleared the site.

These removal actions eliminated more than 2.9 million pounds of solid and hazardous waste. These materials constituted principal threats at the site and were removed, treated, destroyed or disposed of prior to the initiation of the RI/FS.

### *1.1.2 Constituents of Concern (COCs)*

A total of 73 chemicals of potential concern ("COPCs") were identified originally in the RI based on previous detections in site soils and were selected for risk assessment. These included 11 volatile organic compounds ("VOCs"), 29 semi-volatile organic compounds ("SVOCs"), 14 pesticide/PCB compounds, 18 trace metals, and cyanide. In addition, a total of 33 chemicals previously detected in on-site groundwater were selected as COPCs. These included 11 VOCs, 10 SVOCs, one pesticide/PCB compound, 11 trace metals, and cyanide. A significantly reduced number of these COPCs were found to be risk drivers, as summarized in the "*Risk Driving Chemicals of Potential Concern*" table from Section V of the ROD.

Based on the previously discussed contaminant removal activities and the installation of the engineered barrier, and as stated in Section 2.4 of the SOW, "*VOCs are the sole constituents of concern*" with respect to long term natural attenuation groundwater monitoring at the site. Section 2.4 of the SOW specifies that "*...groundwater will be sampled for TCL VOC's only.*" during long term natural attenuation monitoring. In addition, paragraph XII of the Record of Decision (ROD) states *"If during each Five Year Review cycle spastically* [sic] *significant decreases in on-site and down gradient concentrations of trichloroethene and 1,1,1-trichloroethane in shallow groundwater are not verified (which cannot be attributed to upgradient sources), the SVE design pilot test will be implemented."*

Seven VOCs were detected in site monitoring wells during the background data collection period and as reported in the August 28, 2008 First Year Annual Report/Technical Memorandum. These included:

- 1,1,1-trichloroethane;
- 1,1-dichloroethane;
- 1,1-dichloroethene;
- cis-1,2-dichloroethene;
- tetrachloroethene;
- trichloroethane; and
- vinyl chloride.

However, only four VOCs were proposed originally as site-specific COCs for long-term groundwater quality evaluation. Three VOCs, 1,1-dichloroethane, vinyl chloride, and cis-1,2-dichloroethene, were specifically not proposed as COCs because they were generally detected at elevated concentrations in downgradient monitoring wells and because there was, and continues to be, strong evidence to suggest that the downgradient concentrations were, and continue to be, biased due to an off-site source (i.e., landfill gas from the adjacent Peoples Avenue Landfill). However, IEPA's approval of the August 28, 2008 First Year Annual Report/Technical Memorandum was conditional based on the inclusion of all seven VOCs as COCs. Therefore, all seven of the VOCs detected during background data collection and as listed above are evaluated herein as COCs.

### *1.1.3 Extent of Groundwater Impacts*

Remedial investigation activities were conducted at the site to evaluate the nature and extent of contamination, and to assess environmental impacts. Detailed results are provided in the *Final Remedial Investigation Report, Interstate Pollution Control Inc. Site, Rockford, Illinois* (Golder Associates Inc., December 1997). In general, site groundwater was found to be impacted with numerous organic and inorganic constituents from a combination of past site activities and from a number of upgradient sources. Some of the upgradient sources are being addressed under various regulatory actions and it appears that some are not. In addition, landfill gas from the adjacent Peoples Avenue Landfill was detected on-site and was identified as another possible source of VOCs in groundwater.

The site is located adjacent to the much larger Southeast Rockford Groundwater Contamination ("SER") site. The SER site began with the discovery of VOCs in groundwater within a

residential area of nearly two square miles. The discovery prompted the USEPA to extend water mains and connect 526 residences to City water at a cost of approximately $4 million. The SER site was then added to the National Priorities List ("NPL"). After further IEPA study, the SER site was expanded to a ten square mile study area ("SER Study Area") that incorporates almost 20 percent of the City, and which includes the IPC site. Studies have since indicated the widespread presence of chlorinated solvents in groundwater within this ten square mile area, in concentrations varying from less than 10 ppb to over 10,000 ppb.

The SER ROD defines the boundary of the SER Site by the 10 ppb chlorinated VOC plume that extended to approximately 1,200 feet southeast of the IPC site at its closest point (as of 1993). It was reasonable to expect that parts of this plume would expand to the extent that it would affect groundwater beneath the IPC site. It appears that the plume arrived at the upgradient site monitoring wells several years ago and is affecting groundwater quality at IPC.

As discussed in the 1999 site ROD, there are/were also a number of other known groundwater contaminant sources located near the IPC site. For example, the former Mattison Machine Works is located approximately 1,000 feet to the northeast (i.e., upgradient). Previous studies at Mattison Machine Works dating back to 1993 indicate that a plume containing PCE (up to 10,600 ug/L), TCE (up to 1,500 ug/L), and 1,1,1-TCA (up to 800 ug/L) is/was passing under that facility. These concentrations are much higher than are in groundwater at IPC.

In addition, the Peoples Avenue Landfill, located immediately southeast of IPC, was previously identified as the likely source of groundwater contamination that contributed to the deterioration of groundwater quality in one of the City of Rockford's public supply wells (Municipal Well No. 14), ultimately resulting in the abandonment of the supply well in 1971, prior to operations at IPC. The Peoples Avenue Landfill is also a known source of landfill gas (including methane) migration that previously entered the basement of the former Quaker Oats pet food manufacturing plant, located just southwest of the IPC site. And, as reported previously, there is evidence to suggest that landfill gas has already impacted site monitoring well MW-4, which is located between the IPC site and the Peoples Avenue Landfill.

While remedial actions associated with some of the known sources within the SER Study Area are presently on-going, the IEPA and U.S. EPA have not specifically addressed some of the known groundwater contamination sources near to and upgradient of the IPC site (e.g., Mattison Machine Works). As indicated in the RI report and in the ROD, some of these sources contain elevated concentrations of VOCs, some of which are/were higher than those measured on-site.

As noted in the ROD,

> *"One of the most notable outcomes of the groundwater portion of the [RI] investigation was verification that a plume of chlorinated volatile organic compounds, at substantially higher concentrations than occur on site is approaching the site from the north east. The plume is expected to reach the IPC site in 15 to 45 years."*

This is significant because, given that the RI data collection activities were completed by 1994, the "plume" would have possibly reached the site as early as 2009, resulting in degradation of

site groundwater quality that is completely unrelated to the performance of the selected remedy and which could be attributed mistakenly to the site. As such, the interpretation of the results of long term natural attenuation monitoring must take into account the potential for groundwater quality degradation due to off-site sources. This approach reduces the possibility of incorrectly concluding that the selected remedy is insufficient and that the remedy must be supplemented with soil vapor extraction.

In fact, and as discussed in the First Year Annual Report/Technical Memorandum, subsequent annual reports, and the Five Year Review Report, an upgradient plume appears to have arrived at the site. This was acknowledged in an October 22, 2012 IEPA letter which stated:

> *"Based on the data in the report [Five Year Review Report], it appears that an upgradient plume may have arrived at the site and the down gradient concentrations of the contaminants mentioned above [trichloroethene and 1,1,1-trichloroethane] are decreasing."*

While the source of the plume is unknown, it is likely that it is the same one previously reported under the Mattison Machine Works property, and it is possible that the SER Site plume has also expanded to the extent that it now affects groundwater quality at the IPC site. Regardless of the source, it is reasonable to expect that the plume will continue to migrate through the site until such time that the upgradient sources are either removed or isolated, eventually affecting the three downgradient site monitoring wells, and ultimately the two river wells. In other words, there will likely and eventually be groundwater quality degradation in the downgradient site monitoring wells (and possibly in the river wells) that is completely unrelated to the site and to the performance of the selected remedy.

Therefore, the statistical analysis plan was developed such that it allowed for recalculation of background standards (as appropriate) and/or adjustment of the evaluation protocol in order to reduce the likelihood of false positive statistical failure related to the off-site sources. Since it appears that the upgradient plume has arrived, and in accordance with the IEPA-approved GWMP and the IEPA-approved First Year Annual Report/Technical Memorandum, revised calculated background standards and statistical evaluation criteria were included in the Second Year Annual Report for selected COCs.

This report includes statistical evaluations that are consistent with those originally provided in the IEPA-approved GWMP and First Year Annual Report/Technical Memorandum and as modified by the Second Year Annual Report.

### *1.1.4 Remediation*

The IEPA selected the remedial alternative with the concurrence of the U.S. EPA and after a detailed analysis of the alternatives that were included in the approved Feasibility Study (FS). The selected remedial alternative addresses the principal threats by installation of an impermeable barrier over the site, placing institutional controls on future site uses, reinforcing existing city and state groundwater use restrictions, and addressing groundwater contamination resulting from the site by implementing a monitored natural attenuation program. There is also a contingent remedy that includes soil vapor extraction should the IEPA conclude during the five-

year review periods that site and downgradient groundwater quality has not improved due to continued site releases "which cannot be attributed to upgradient sources".

An SVE system was not included as an active part of the current remedy for a number of reasons, as discussed in the FS. First, the incremental improvement in reducing VOC migration to groundwater, and therefore in reducing risk to health and the environment, was deemed minimal following the construction of the surface barrier. Second, the treatment efficiency for an SVE system was not quantifiable given the relatively high VOC load currently on site and the on-going impacts from off-site sources. Finally, there were concerns that an SVE system would induce landfill gas migration from the Peoples Avenue Landfill that would adversely impact the operation of such a system. There were also concerns, discussed with the IEPA during the FS evaluation process, that such landfill gas migration would create a site health and safety issue related to possible explosive hazards.

While there would be potential site health and safety issues associated with managing landfill gases while operating an SVE system, there would likely be other, more significant hazards that could result. For example, if an on-site SVE system were installed, there would be an increased potential for landfill gas to flow from the People's Avenue Landfill towards the IPC site. Because that gas would have to migrate across People's and Magnolia Avenues, some of it would find its way into various man-made conduits (e.g., underground utility backfill, sewers, etc.). Once in these conduits, the landfill gas would have an opportunity to travel for great distances and in many directions, possibly entering buildings, and thus creating explosion hazards.

Nothing has changed at the site that would alter the first criterion, above. The engineered barrier was installed and is being maintained, effectively eliminating both surface water infiltration and potential exposure to any remaining site contaminants. However, with the predicted arrival of the uncontrolled upgradient plume(s), groundwater quality beneath the engineered barrier is likely to degrade for an unknown period of time. Groundwater quality degradation from the upgradient plume(s) can be expected to continue until the upgradient source(s) are either removed or are isolated, and there is presently no indication that there are either ongoing or planned efforts to address the uncontrolled sources. This has resulted in a situation in which the IPC Steering Committee's ability to incrementally evaluate IPC's contribution to groundwater degradation is now extremely difficult, if not impossible.

Regarding the second criterion, if there was formerly an inability to quantify the efficacy of an SVE system given the then-current contaminant loads, then the arrival of the off-site plume(s), which could effectively increase on-site contaminant load, would further reduce the ability to quantify the efficacy of an SVE system. For example, if an SVE system were installed and operated concurrent with the arrival of the upgradient plume, then it would be likely that the additional contaminant load from the plume would far exceed the remedial effect of the SVE system.

Regarding the third criterion, the potential for an SVE system to induce off-site landfill gas migration appears to be quite real given the documentation showing that groundwater in MW4, located adjacent to the People's Avenue Landfill, already contains dissolved methane which is

likely the result of landfill gas migration on to the site. It is reasonable to expect that if landfill gas can migrate to the site under current, passive conditions (i.e., with no SVE system), then there is a greatly increased likelihood of additional landfill gas migration under active conditions (i.e., with an active SVE system) with a corresponding potential increase in groundwater quality degradation and health and safety related issues associated with uncontrolled landfill gas migration via underground utilities.

Finally, it must be emphasized that the SVE system would be designed to reduce contaminant load in site soils and thus reduce the potential for contaminant migration from site soil to site groundwater, premised on the assumption that current groundwater impacts are generally a function of the current soil contaminant load. Given that the upgradient groundwater plume(s), which appears to have already reached the site, contain higher concentrations of some COCs than are currently in site groundwater, it is fair to expect that the upgradient source will be significantly larger and/or more heavily contaminated than what presently remains in site soil. Under these conditions the incremental improvement to site groundwater quality via the implementation of an SVE system will be immeasurable or nonexistent.

On the basis of these arguments, the IPC Steering Committee recommended previously (*River Well Statistics Technical Memorandum, June 1, 2010*), and continues to recommend, that the SVE system be excluded from further consideration as a contingent remedy.

The engineered barrier was completed in 2006. The groundwater monitoring natural attenuation program began in September 2007 and background data collection at the six site monitoring wells was completed in June 2008. The slight delay between the completion of the engineered barrier and the initiation of natural attenuation monitoring was based on the desire to complete the installation of the two river wells and to collect background data from them simultaneously with the six site monitoring wells. Unfortunately, the installation of the two river wells was delayed more than expected due to access issues beyond the control of the steering committee. Therefore, after a period of time the IEPA requested that background data collection begin at the six site wells even though the two river wells had not been installed.

The two river wells were installed in March 2009 and background data collection was completed following the fourth quarter 2009 sampling event. The results of the river well background data collection and the calculated COC standards were provided to the IEPA on June 1, 2010. This report includes data collected through June 2015 (i.e., the fourteenth semiannual event at the site wells and the eleventh semiannual event at the river wells).

## 1.2 Statistical Analysis Plan

The statistical evaluation plan (STEP) was included in the IEPA-approved First Year Annual Report/Technical Memorandum and was specifically designed to allow for subsequent modification to account for the anticipated influences from off-site contaminant sources and to reduce the possibility that those influences could result in statistical failures that were unrelated to site contributions to groundwater quality degradation. Due the apparent arrival of the off-site plume and the continued landfill-gas influences in MW4, the STEP was modified in the Second Year Annual Report as follows:

- Intrawell background standards were recalculated for 1,1-DCA in MW3 and for PCE and TCE in MW6 to account for the arrival of the off-site (upgradient) contaminant plume.

- Interwell background standards were recalculated for 1,1-DCA, PCE, and TCE in the three upgradient wells to account for the arrival of the off-site (upgradient) contaminant plume.

- A statistical failure at MW4 would hereafter be based on a combined failure of an interwell *and* an intrawell background standard to reduce the possibility of a statistical failure due to landfill gas influences from the Peoples Avenue Landfill.

The evaluations included in this Eighth Year Annual Report are based on the IEPA-approved modified STEP.

## 1.3 Eighth Year Annual Report Overview

The purpose of this report is to provide the results of long-term natural attenuation monitoring to date at the site, a comparison of the data to previously calculated/IEPA-approved background groundwater quality standards, and an evaluation of whether the site is currently impacting groundwater. This report is organized as follows:

- Section 2.0 provides on evaluation of groundwater quality based on a comparison of COC detections with calculated COC background standards.

- Section 3.0 includes an alternative source demonstration (ASD) for various COCs detected currently or previously in monitoring wells MW1 and MW4 and, in general, any other statistically significant changes to groundwater quality, if any.

- Section 4.0 includes a summary and conclusions.

# 2.0 EVALUATION OF SITE GROUNDWATER QUALITY

Background groundwater quality data collection was performed at the six site monitoring wells in accordance with the ROD, SOW, and IEPA-approved GWMP. A site-specific list of seven COCs was selected and background standards were calculated based on the first four quarters of background data collection. The COC list and calculated background standards were approved by IEPA. As discussed in detail in the Second Year Annual Report and summarized herein, selected background standards were recalculated in the upgradient wells to incorporate upgradient plume-affected data, and minor modifications were made to the statistical evaluation protocol, to reduce the possibility of future statistical failures based on influences from the upgradient plume.

Background data collection was completed in the two river wells following the fourth quarter 2009 sampling event. Specific COC background standards were calculated for both river wells and were submitted to IEPA on June 1, 2010 (*River Well Statistics Technical Memorandum*) and are the basis for the statistical comparisons included herein.

## 2.1 Site Groundwater Monitoring Network

The site groundwater monitoring network consists of six monitoring wells, designated MW1, MW2, MW3, MW4, MW5, and MW6. The locations of these wells are shown on the figure included in Attachment 2. Each well is screened at a depth of approximately 60 feet within the shallow sand and gravel aquifer. Both regional and local groundwater flow in this aquifer is generally from northeast to southwest, towards the Rock River. Based on this groundwater flow direction, monitoring wells MW3, MW5, and MW6 are hydraulically upgradient of the site. The remaining three monitoring wells, MW1, MW2, and MW4 are hydraulically downgradient of the site.

## 2.2 River Wells

Two river wells were installed in March 2009, as required, at the locations shown on the figure included in Attachment 2. The river wells are designated MW8 and MW9, and both were installed to a depth of approximately 19 feet. (Note: The designation MW7 is reserved for the "blind" duplicate sample submitted to the laboratory during each monitoring event). Based on current groundwater flow conditions, both river wells are hydraulically downgradient of the site.

## 2.3 Results of Ongoing Natural Attenuation Groundwater Monitoring

Semiannual groundwater sampling for each of the seven COCs was performed in each of the site monitoring wells during this reporting period. Quarterly monitoring was performed at the two river wells through the background data collection period (ending in the fourth quarter 2009) and then continued on a semiannual basis. The laboratory data reports are included as Attachment 3.

A summary of the analytical results for each COC in each monitoring well during this monitoring period is included in the table in Attachment 4. The table in Attachment 4 also

includes the calculated background standards. Concentration time trends for each COC in each well are included as Attachment 5.

Each laboratory data report was reviewed for completeness and accuracy, in accordance with the IEPA-approved quality assurance project plan (QAPP). The reviews included laboratory QA/QC documentation and the results of field and quality control blanks. Data validation summaries for each laboratory sampling report are included in Attachment 6.

A discussion of site groundwater quality is included below.

### *2.3.1 Upgradient Site Groundwater Quality*

Overall upgradient groundwater quality has improved with respect to total VOC load since natural attenuation monitoring began in 2007. The concentrations of tetrachloroethene (PCE) and trichloroethene have generally increased in upgradient well MW6 since 2007, with the concentrations of PCE spiking in 2014. During 2015 the concentrations of both compounds dropped significantly. The concentration increases are consistent with the apparent arrival of the off-site, upgradient VOC plume (or discreet "slugs" from that plume), as reported previously. As stated in the ROD,

> *"One of the most notable outcomes of the groundwater portion of the* [RI] *investigation was verification that a plume of chlorinated volatile organic compounds, at substantially higher concentrations than occur on site is approaching the site from the north east. The plume is expected to reach the IPC site in 15 to 45 years."*

Given that the RI data collection activities were completed by 1994, arrival of the plume by 2009 is entirely consistent with the predictions included in the RI Report. This appears to be further supported by the total (i.e., cumulative) VOC load trends included as Attachment 7. As shown in the total VOC load time trends, the total (i.e., cumulative) VOC load has always been higher in the three upgradient wells compared to the three downgradient wells since natural attenuation monitoring began in 2007. Clearly, therefore, upgradient groundwater quality is worse than is downgradient groundwater quality based on total VOC load.

The IEPA requested in their August 26, 2009 Second Year Annual Report comment letter that a graph showing the sum of trichloroethene (TCE) and 1,1,1-trichloroethane (1,1,1-TCA) in the upgradient site wells compared with the sum in the downgradient site wells be included in the annual reports. Such a time trend is included in Attachment 8. As shown on the graph, the total concentrations of these two compounds have been consistently higher in the upgradient wells. The sum of TCE and 1,1,1-TCA in the upgradient wells peaked in December 2009. Since that time, the concentrations of both compounds have been generally decreasing.

During the same time period the sum of TCE and 1,1,1-TCA in the downgradient wells has generally mirrored the pattern observed in the upgradient wells. However, it is relevant to note that the sum of TCE and 1,1,1-TCA in the downgradient wells is now more than 50% less than it was at the start of natural attenuation monitoring, and this in spite of the arrival of the upgradient plume. And finally, the difference between the cumulative upgradient sums and the cumulative downgradient sums has increased from approximately 206 ug/L, when natural attenuation

monitoring began, to 215 ug/L during this reporting period. Based on these comparisons, groundwater quality has improved downgradient of the site compared to upgradient of the site.

The only statistical failure during this reporting period was for an intrawell exceedance of PCE in upgradient well MW3. Strictly speaking, and consistent with the IEPA-approved statistical analysis plan, an intrawell exceedance in an upgradient well (e.g., previous PCE exceedance in MW6 and current PCE exceedance in MW3) is evidence of groundwater degradation due to an off-site source and is, therefore, grounds for recalculating the intrawell background standard. However, given that such exceedances have not been persistent and the overall decreasing total VOC load, we do not think that any further upgradient intrawell background standard revisions are appropriate at this time.

Also, the previously reported interwell exceedances of PCE in upgradient well MW3 provides further statistical evidence that the original background data set used to calculate the interwell standards may no longer be representative due to the arrival of the off-site plume. In other words, the current background data set, at least for PCE, may not properly account for temporal variability (i.e., as it is specifically affected by the arrival of the off-site plume). However, given that there were only a few interwell exceedances, and that the exceedances have not been persistent, we do not currently propose the recalculation of any of the upgradient interwell background standards. This could change if there are additional interwell exceedances in any of the upgradient monitoring wells during future monitoring events.

### *2.3.2 Downgradient Site Groundwater Quality*

Downgradient groundwater quality in the three downgradient site wells continues to improve. Total VOC load in the downgradient wells, depicted in the time trends included as Attachment 7, has decreased fairly steadily and is presently about 471 ug/L, compared to 990 ug/L when natural attenuation monitoring began, a decrease of about 52 percent.

During this reporting period there were no interwell background standards exceedances in any of the downgradient monitoring wells. The presence of 1,1-DCA in well MW4, along with vinyl chloride - both at relatively high concentrations compared to the other site monitoring wells - was reported previously in the First Year Annual Report/Technical Memorandum and was attributed to landfill gas from a known off-site/side gradient and uncontained source, the Peoples Avenue Landfill. This was the primary motivation behind our initial request to exclude these two compounds from long-term natural attenuation monitoring, which was denied by IEPA.

This report includes an alternative source demonstration (ASD) in Section 3.0 for 1,1-DCA and vinyl chloride in well MW4 even though neither compound exceeded its background standards during this reporting period.

### *2.3.3 Downgradient River Well Groundwater Quality*

Only one VOC, cis-1,2-DCE, was detected in river well MW9 during the June 2015 sampling event. However, the concentration was well below the interwell background standard. There were no VOC detections in MW9 during the December 2014 sampling event.

Only four VOCs were detected during the December 2014 and June 2015 sampling events, compared to six VOCs detected during the December 2013 sampling event. These included 1,1-DCA, cis-1,2-DCE, PCE, and TCE. The concentrations of each compound were well below their respective interwell background standards.

Based on the above results, there is no indication of site-related groundwater impacts in the river wells.

### *2.3.4 Quality Assurance/Quality Control Issues*

There were no major quality assurance/quality control (QA/QC) issues identified during this reporting period. However, as noted in the attached Data Validation Summary for the December 2014 event, the MS/MSD recovery for chloromethane was 134%, exceeding the associated accepted limit by 1%. As a result, the reported sample concentration may be biased high. Since chloromethane was not detected in the well from which the MS/MSD sample was collected (MW6), this QA/QC issue does not affect the data integrity.

## 3.0 ALTERNATIVE SOURCE DEMONSTRATION FOR COCS DETECTED IN SITE MONITORING WELLS MW1 AND MW4

None of the VOCs detected in wells MW1 and MW4 exceeded their respective interwell background standards during the December 2014 and June 2015 sampling events. However, this alternative source demonstration is included to address the presence of some specific VOC compounds.

Groundwater samples collected during the quarterly background monitoring were also analyzed for dissolved methane, specifically during the third quarter 2008 monitoring event, as reported previously in the First Year Annual Report/Technical Memorandum. Dissolved methane, a major component of landfill gas, was detected in five of the six site monitoring wells, and at the highest concentration in well MW4, located closest to the Peoples Avenue Landfill. The dissolved methane results are summarized in the table below.

Results of Dissolved Methane Analyses

| Sample Location | Concentration of Dissolved Methane (ug/L) | Reporting Limit (ug/L) |
|---|---|---|
| MW1 | 2.1 | 0.19 |
| MW2 | 2.1 | 0.19 |
| MW3 | 4.1 | 0.19 |
| MW4 | 42 | 0.19 |
| MW5 | ND | 0.19 |
| MW6 | 1.2 | 0.19 |
| MW7* | 1.3 | 0.19 |
| Field blank | ND | 0.19 |
| Trip blank | ND | 0.19 |

ND = not detected at the reporting limit
* "blind" duplicate sample collected from MW6

### 3.1 Sources of Naturally Occurring Dissolved Methane

The relatively low dissolved methane concentrations in four of the wells may be indicative of methanogenesis, a naturally occurring form of anaerobic respiration associated with certain common microbes in the presence of organic material. Subsurface soil at the site was reported in the RI report to have contained relatively high concentrations of total organic carbon (TOC). Given that the site cap has likely created subsurface anaerobic conditions, the presence of an abundant "food" source (i.e., the high TOC), it is not unreasonable to assume that methanogenesis is occurring. Therefore, the site-wide presence of relatively low concentrations of dissolved methane could indicate that natural attenuation is active.

## 3.2 Off-Site Sources of Dissolved Methane

The Peoples Avenue Landfill is located adjacent to and south/southeast of the site, and reportedly received a combination of residential, commercial, and industrial wastes. The combustible gas methane was previously detected in the basement of the adjacent pet food plant, and it was attributed to the Peoples Avenue Landfill (USEPA, 1976; RI Report, 1994). Two isolated areas with elevated combustible gas readings (i.e., methane) were also identified between the site and the Peoples Avenue Landfill during RI activities conducted in the early 1990's. Soil gas collected from these areas also contained slightly elevated concentrations of VOCs. The conclusion contained in the RI was:

> *"The USEPA and RI soil gas results indicate, therefore, that the Peoples Avenue Landfill may be an active source of combustible gases and, possibly, organic vapors in the Site area."*

Landfill gas migration is a commonly known transport mechanism for numerous VOCs including tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, vinyl chloride, and others (Vogel et al., 1987). As such, landfill gas migration has been implicated to be a principal source of many VOCs, including those currently detected in site groundwater, in groundwater near landfills.

While dissolved methane was discovered in most of the site monitoring wells, the concentrations were relatively low and, therefore, are likely at least partially the result of on-site methanogenesis.

*MW4*

The concentrations of all the previously detected VOCs in MW4 have generally decreased and there were no exceedances of interwell background standards during this reporting period. However, the following alternative source demonstration is provided for informational purposes.

Given that MW4 is located adjacent to the Peoples Avenue Landfill and it contains, by far, the highest concentration of dissolved methane compared to the other wells, it is highly likely that landfill gas from the Peoples Avenue Landfill is the source for much, or all, of the dissolved methane in MW4. This is consistent with the previous reports documented herein. And given that landfill gas is a common carrier of numerous VOCs, including 1,1-DCA and vinyl chloride, it is fair to conclude that elevated concentrations of compounds such as 1,1-DCA and vinyl chloride in MW4 are also the result of the presence of landfill gas.

It is important to note that neither 1,1-DCA nor vinyl chloride are exhibiting increasing trends in MW4, and concentrations are well within the range of those detected since the beginning of natural attenuation monitoring. In fact, the concentrations of both compounds have generally decreased since natural attenuation monitoring began. More importantly, the total VOC load in MW4 has continued to decrease from a high of 389 ug/L in December 2007 to approximately 92 ug/L during the most recent sampling event, a drop of approximately 76 percent.

In summary, therefore, there is no indication that groundwater conditions at MW4 are deteriorating due to the site and, in fact, it appears that overall groundwater conditions in this well have improved based the individual VOC trends and on total VOC load.

*MW1*

There were no exceedances of interwell background standards at MW-1 during this reporting period. Total VOC load in MW1 has decreased from a high of approximately 336 ug/L in June 2008 to its lowest point (144 ug/L) during the most recent sampling event, a decrease of approximately 57 percent.

It is possible that landfill gas has affected groundwater conditions in this well and have thus biased the concentration of 1,1-DCA and vinyl chloride, as indicated by the presence of dissolved methane in groundwater at this well. Other known (or unknown) upgradient sources may also be contributing sources. While MW1 is technically a downgradient well, it is located such that it could easily be considered sidegradient. Based on the location of MW1, it is easy to see that a plume migrating from the northeast or from the adjacent quarry could, potentially, impact MW1 while not affecting the upgradient wells.

In any case, overall groundwater conditions have clearly improved in MW1 with respect to individual VOC trends and total VOC load, and there is no indication of site-related degradation in groundwater quality at this well.

## 4.0 SUMMARY AND CONCLUSIONS

The results of long-term natural attenuation monitoring to date indicate that total (i.e., cumulative) VOC load in the downgradient wells has decreased to the lowest point since natural attenuation monitoring began in 2007. Similarly, the cumulative concentrations of TCE and 1,1,1-TCA have also decreased considerably from their highest concentration levels and are currently near historic lows. There does not appear to be any site-related groundwater degradation in either the site monitoring wells or in the river wells. The affects from the arrival of the upgradient plume appear to have generally stabilized for the moment, and the previously revised statistical standards and evaluation protocol appear to have satisfactorily addressed the impacts associated with the off-site plume and no further statistical evaluation revisions are currently recommended. However, it is reasonable to assume that the off-site plume will eventually migrate through the site and impact the downgradient monitoring wells, possibly resulting in new "false-positive" statistical failures that will need to be addressed either by revising calculated background standards or by changing the statistical evaluation protocol (or both).

While on-site methanogenesis is likely occurring, indicating that natural attenuation is active, the relatively high (i.e., anomalous) concentrations of dissolved methane in downgradient well MW4 appear to be the result of landfill gas migration from the Peoples Avenue Landfill. It is likely that the associated relatively high concentrations of 1,1-DCA and vinyl chloride in MW4 are the result of the presence of landfill gas and are not site-related. It is also likely that the presence of these compounds in other site wells are biased high due to the presence of landfill gas.

We look forward to the IEPA's approval of this report. If you have any questions, please do not hesitate to call me at 630 834-8847.

Sincerely,
ENVIRONMENTAL INFORMATION LOGISTICS, LLC

A. Michael Hirt, P.G.
Senior Geologist

**References**

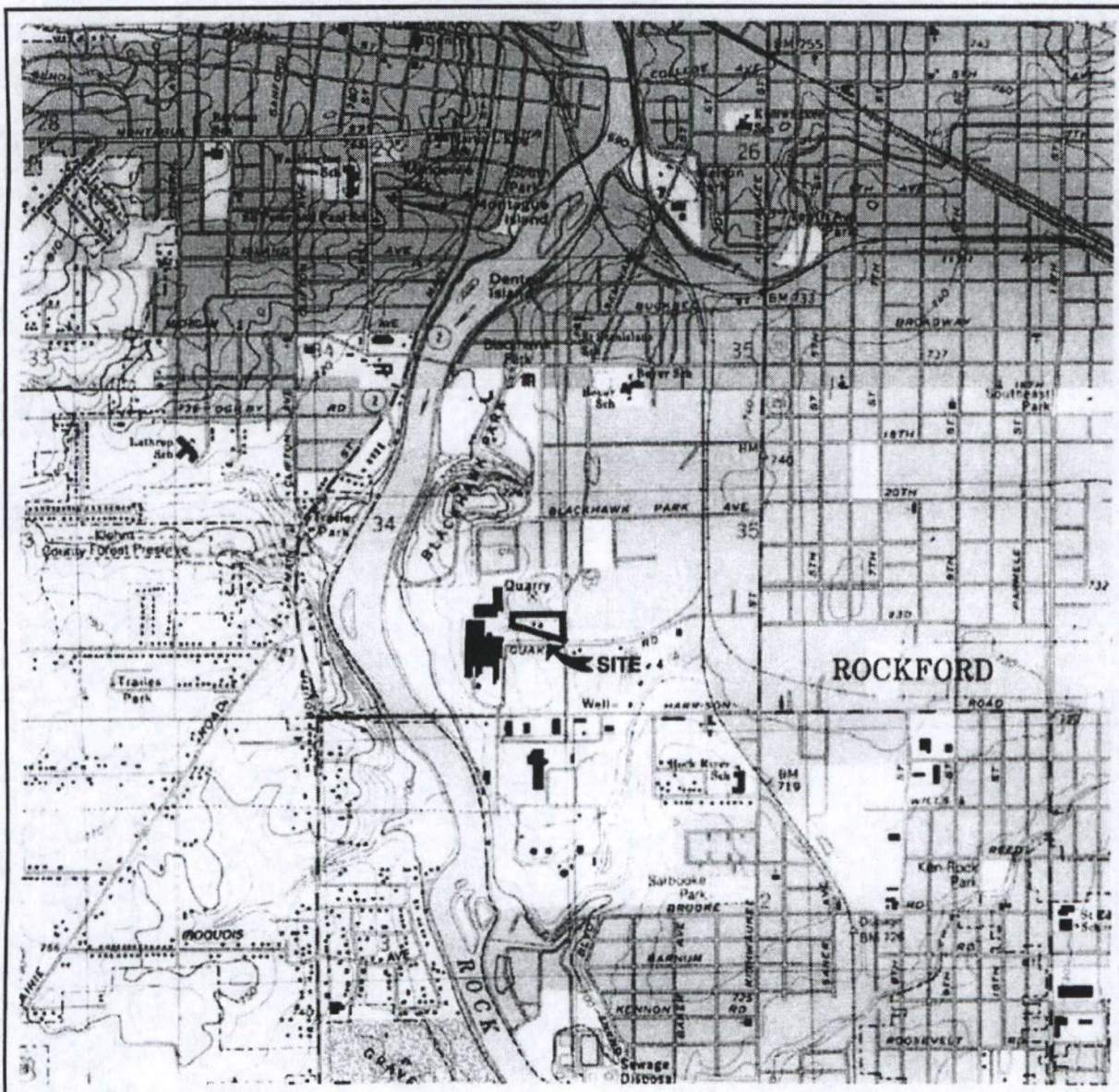
Golder Associates, Inc., 1994, Final Remedial Investigation Report, Interstate Pollution Control Inc. Site, Rockford, Illinois.

USEPA, 1976, *Leachate Damage Assessment: Case Study of the Peoples Avenue Landfill Solid Waste Disposal Site in Rockford, Illinois*, EPA/530/SW-517.

Vogel et al., 1987, *Transformation of Halogenated Aliphatic Compounds*, Environmental Science Technology, vol. 21, pp. 722-736.

# Attachment 1

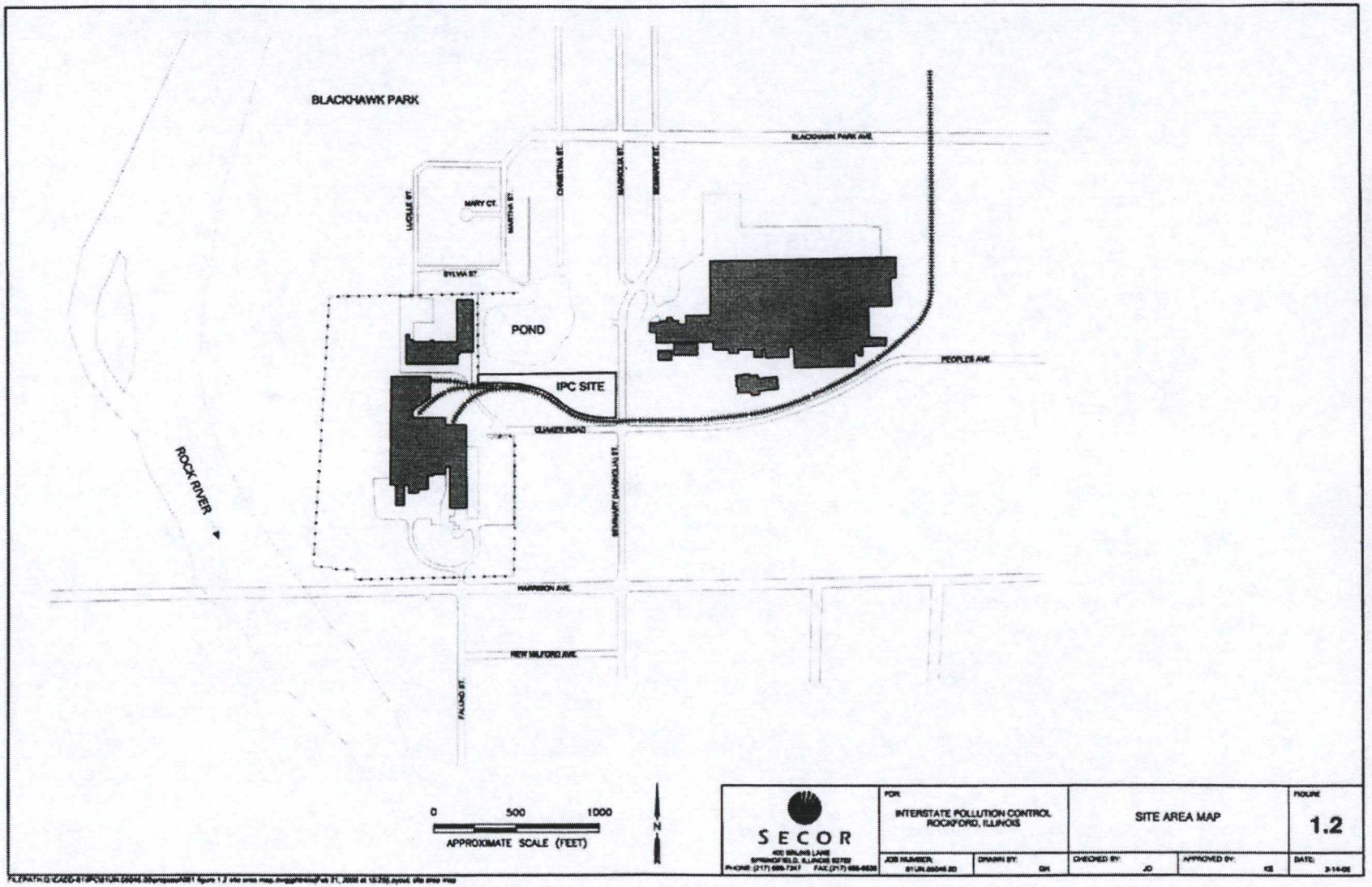
## Site Location and Detail Maps




REFERENCE: USGS 7.5 MINUTE QUADRANGLE; Rockford, IL North & South
Photorevised 1993

| | | | | | |
|---|---|---|---|---|---|
| SECOR<br>400 BRUNS LANE<br>SPRINGFIELD, ILLINOIS 62702<br>PHONE: (217) 698-7247 FAX: (217) 698-8538 | FOR:<br>INTERSTATE POLLUTION CONTROL<br>ROCKFORD, ILLINOIS | | SITE LOCATION MAP | | FIGURE<br>1.1 |
| | JOB NUMBER:<br>61UN.05048.00 | DRAWN BY:<br>GH | CHECKED BY:<br>JO | APPROVED BY:<br>KS | DATE:<br>2-14-06 |

FILEPATH:O:\CADD-61\IPC\61UN.05048.00\proposal\061 figure 1.1 site location map.dwg|ghinkle|Feb 21, 2006 at 15:26|Layout: site local


BLACKHAWK PARK
BLACKHAWK PARK AVE.
MARY CT.
SYLVIA ST.
POND
IPC SITE
PEORIA AVE.
CLAGER ROAD
ROCK RIVER
HARRISON AVE.
NEW MILFORD AVE.
0
500
1000
APPROXIMATE SCALE (FEET)
N
SECOR
FOR:
INTERSTATE POLLUTION CONTROL
ROCKFORD, ILLINOIS
SITE AREA MAP
FIGURE
1.2
JOB NUMBER:
DRAWN BY:
CHECKED BY:
JD
APPROVED BY:
DATE:

## Attachment 2

## Figure Showing the Locations of the Long-Term Natural Attenuation Monitoring Wells


## LEGEND

IPC APPROXIMATE SITE BOUNDARY

LONG-TERM NATURAL ATTENUATION MONITORING WELL LOCATIONS

## NOTES

1. AERIAL PHOTO PROVIDED BY WINNEBAGO COUNTY GEOGRAPHIC INFORMATION SYSTEM (WINGIS).

N

0 150' 300'

SCALE: 1" = 300'

PREPARED BY

EIL ENVIRONMENTAL INFORMATION LOGISTICS, LLC

PREPARED FOR

INTERSTATE POLLUTION CONTROL

# FIGURE 1

## LONG-TERM NATURAL ATTENUATION MONITORING WELL LOCATIONS

INTERSTATE POLLUTION CONTROL
ROCKFORD, ILLINOIS

070309

AUGUST 2015

# Attachment 3

## Laboratory Data Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-89548-1
Client Project/Site: Interstate Pollution Control Site

For:
Environmental Information Logistics (EIL
405 Ritsher Street
Beloit, Wisconsin 53511

Attn: Ms. Mary Pearson

*Authorized for release by:*
*12/23/2014 2:48:20 PM*

Richard Wright, Senior Project Manager
(708)534-5200
richard.wright@testamericainc.com

# Table of Contents

# Case Narrative

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

## Job ID: 500-89548-1

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative**
**500-89548-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 12/16/2014 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

**GC/MS VOA**
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

## Client Sample ID: MW1 — Lab Sample ID: 500-89548-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 18 | | 2.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 6.8 | | 5.0 | 0.31 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 13 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 130 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 12 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW2 — Lab Sample ID: 500-89548-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 3.2 | | 2.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 9.5 | | 5.0 | 0.31 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 32 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| 1,1,1-Trichloroethane | 9.0 | | 5.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 160 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 32 | | 5.0 | 0.17 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW3 — Lab Sample ID: 500-89548-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 9.4 | | 5.0 | 0.31 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 22 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| 1,1,1-Trichloroethane | 10 | | 5.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 200 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 42 | | 5.0 | 0.17 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW4 — Lab Sample ID: 500-89548-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 35 | | 2.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 7.0 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 49 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| 1,1,1-Trichloroethane | 7.9 | | 5.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW5 — Lab Sample ID: 500-89548-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 13 | | 5.0 | 0.31 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 5.3 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 27 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| 1,1,1-Trichloroethane | 12 | | 5.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 130 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 43 | | 5.0 | 0.17 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW6 — Lab Sample ID: 500-89548-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 19 | | 2.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 7.0 | | 5.0 | 0.31 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 7.7 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 62 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

## Client Sample ID: MW6 (Continued)

Lab Sample ID: 500-89548-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | | 5.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 70 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 27 | | 5.0 | 0.17 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW7

Lab Sample ID: 500-89548-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 18 | | 2.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 7.4 | | 5.0 | 0.31 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 13 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 130 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 11 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW8

Lab Sample ID: 500-89548-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 11 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 14 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 30 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 5.1 | | 5.0 | 0.17 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: MW9

Lab Sample ID: 500-89548-9

No Detections.

## Client Sample ID: F.B.

Lab Sample ID: 500-89548-10

No Detections.

## Client Sample ID: Trip Blank

Lab Sample ID: 500-89548-11

No Detections.

This Detection Summary does not include radiochemical test results.

# Method Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL CHI |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Sample Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 500-89548-1 | MW1 | Water | 12/15/14 14:20 | 12/16/14 10:30 |
| 500-89548-2 | MW2 | Water | 12/15/14 13:54 | 12/16/14 10:30 |
| 500-89548-3 | MW3 | Water | 12/15/14 13:12 | 12/16/14 10:30 |
| 500-89548-4 | MW4 | Water | 12/15/14 12:31 | 12/16/14 10:30 |
| 500-89548-5 | MW5 | Water | 12/15/14 11:50 | 12/16/14 10:30 |
| 500-89548-6 | MW6 | Water | 12/15/14 11:02 | 12/16/14 10:30 |
| 500-89548-7 | MW7 | Water | 12/15/14 10:15 | 12/16/14 10:30 |
| 500-89548-8 | MW8 | Water | 12/15/14 09:35 | 12/16/14 10:30 |
| 500-89548-9 | MW9 | Water | 12/15/14 09:45 | 12/16/14 10:30 |
| 500-89548-10 | F.B. | Water | 12/15/14 14:30 | 12/16/14 10:30 |
| 500-89548-11 | Trip Blank | Water | 12/15/14 00:00 | 12/16/14 10:30 |

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

**Client Sample ID: MW1**
**Date Collected: 12/15/14 14:20**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-1**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 18:29 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 18:29 | 1 |
| **Vinyl chloride** | **18** | | 2.0 | 0.10 | ug/L | | | 12/18/14 18:29 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 18:29 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 18:29 | 1 |
| **1,1-Dichloroethene** | **6.8** | | 5.0 | 0.31 | ug/L | | | 12/18/14 18:29 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 18:29 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 18:29 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 18:29 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 18:29 | 1 |
| **1,1-Dichloroethane** | **13** | | 5.0 | 0.19 | ug/L | | | 12/18/14 18:29 | 1 |
| **cis-1,2-Dichloroethene** | **130** | | 5.0 | 0.12 | ug/L | | | 12/18/14 18:29 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 18:29 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 18:29 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 18:29 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 18:29 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 18:29 | 1 |
| **Trichloroethene** | **12** | | 5.0 | 0.19 | ug/L | | | 12/18/14 18:29 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 18:29 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 18:29 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 18:29 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 18:29 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 18:29 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 18:29 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 18:29 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 18:29 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 18:29 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 18:29 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 18:29 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 18:29 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 18:29 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 18:29 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 18:29 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 18:29 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *75 - 125* | | *12/18/14 18:29* | *1* |
| *Toluene-d8 (Surr)* | *91* | | *75 - 120* | | *12/18/14 18:29* | *1* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *75 - 120* | | *12/18/14 18:29* | *1* |
| *Dibromofluoromethane* | *93* | | *75 - 120* | | *12/18/14 18:29* | *1* |

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

**Client Sample ID: MW2**
**Date Collected: 12/15/14 13:54**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-2**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 18:57 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 18:57 | 1 |
| **Vinyl chloride** | **3.2** | | 2.0 | 0.10 | ug/L | | | 12/18/14 18:57 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 18:57 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 18:57 | 1 |
| **1,1-Dichloroethene** | **9.5** | | 5.0 | 0.31 | ug/L | | | 12/18/14 18:57 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 18:57 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 18:57 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 18:57 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 18:57 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/18/14 18:57 | 1 |
| **cis-1,2-Dichloroethene** | **32** | | 5.0 | 0.12 | ug/L | | | 12/18/14 18:57 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 18:57 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 18:57 | 1 |
| **1,1,1-Trichloroethane** | **9.0** | | 5.0 | 0.20 | ug/L | | | 12/18/14 18:57 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 18:57 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 18:57 | 1 |
| **Trichloroethene** | **160** | | 5.0 | 0.19 | ug/L | | | 12/18/14 18:57 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 18:57 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 18:57 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 18:57 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 18:57 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 18:57 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 18:57 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 18:57 | 1 |
| **Tetrachloroethene** | **32** | | 5.0 | 0.17 | ug/L | | | 12/18/14 18:57 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 18:57 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 18:57 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 18:57 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 18:57 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 18:57 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 18:57 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 18:57 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 18:57 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *75 - 125* | | *12/18/14 18:57* | *1* |
| *Toluene-d8 (Surr)* | *91* | | *75 - 120* | | *12/18/14 18:57* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *75 - 120* | | *12/18/14 18:57* | *1* |
| *Dibromofluoromethane* | *91* | | *75 - 120* | | *12/18/14 18:57* | *1* |

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

**Client Sample ID: MW3**
**Date Collected: 12/15/14 13:12**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-3**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 19:25 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 19:25 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 12/18/14 19:25 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 19:25 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 19:25 | 1 |
| **1,1-Dichloroethene** | **9.4** | | 5.0 | 0.31 | ug/L | | | 12/18/14 19:25 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 19:25 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 19:25 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 19:25 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 19:25 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/18/14 19:25 | 1 |
| **cis-1,2-Dichloroethene** | **22** | | 5.0 | 0.12 | ug/L | | | 12/18/14 19:25 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 19:25 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 19:25 | 1 |
| **1,1,1-Trichloroethane** | **10** | | 5.0 | 0.20 | ug/L | | | 12/18/14 19:25 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 19:25 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 19:25 | 1 |
| **Trichloroethene** | **200** | | 5.0 | 0.19 | ug/L | | | 12/18/14 19:25 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 19:25 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 19:25 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 19:25 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 19:25 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 19:25 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 19:25 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 19:25 | 1 |
| **Tetrachloroethene** | **42** | | 5.0 | 0.17 | ug/L | | | 12/18/14 19:25 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 19:25 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 19:25 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 19:25 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 19:25 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 19:25 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 19:25 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 19:25 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 19:25 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *75 - 125* | | *12/18/14 19:25* | *1* |
| *Toluene-d8 (Surr)* | *90* | | *75 - 120* | | *12/18/14 19:25* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *75 - 120* | | *12/18/14 19:25* | *1* |
| *Dibromofluoromethane* | *94* | | *75 - 120* | | *12/18/14 19:25* | *1* |

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

**Client Sample ID: MW4**
**Date Collected: 12/15/14 12:31**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-4**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 19:52 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 19:52 | 1 |
| **Vinyl chloride** | **35** | | 2.0 | 0.10 | ug/L | | | 12/18/14 19:52 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 19:52 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 19:52 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 19:52 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 19:52 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 19:52 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 19:52 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 19:52 | 1 |
| **1,1-Dichloroethane** | **7.0** | | 5.0 | 0.19 | ug/L | | | 12/18/14 19:52 | 1 |
| **cis-1,2-Dichloroethene** | **49** | | 5.0 | 0.12 | ug/L | | | 12/18/14 19:52 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 19:52 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 19:52 | 1 |
| **1,1,1-Trichloroethane** | **7.9** | | 5.0 | 0.20 | ug/L | | | 12/18/14 19:52 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 19:52 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 19:52 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/18/14 19:52 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 19:52 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 19:52 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 19:52 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 19:52 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 19:52 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 19:52 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 19:52 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 19:52 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 19:52 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 19:52 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 19:52 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 19:52 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 19:52 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 19:52 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 19:52 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 19:52 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *75 - 125* | | *12/18/14 19:52* | *1* |
| *Toluene-d8 (Surr)* | *91* | | *75 - 120* | | *12/18/14 19:52* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *75 - 120* | | *12/18/14 19:52* | *1* |
| *Dibromofluoromethane* | *93* | | *75 - 120* | | *12/18/14 19:52* | *1* |

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

**Client Sample ID: MW5**
**Date Collected: 12/15/14 11:50**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-5**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 20:20 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 20:20 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 12/18/14 20:20 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 20:20 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 20:20 | 1 |
| **1,1-Dichloroethene** | **13** | | 5.0 | 0.31 | ug/L | | | 12/18/14 20:20 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 20:20 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 20:20 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 20:20 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 20:20 | 1 |
| **1,1-Dichloroethane** | **5.3** | | 5.0 | 0.19 | ug/L | | | 12/18/14 20:20 | 1 |
| **cis-1,2-Dichloroethene** | **27** | | 5.0 | 0.12 | ug/L | | | 12/18/14 20:20 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 20:20 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 20:20 | 1 |
| **1,1,1-Trichloroethane** | **12** | | 5.0 | 0.20 | ug/L | | | 12/18/14 20:20 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 20:20 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 20:20 | 1 |
| **Trichloroethene** | **130** | | 5.0 | 0.19 | ug/L | | | 12/18/14 20:20 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 20:20 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 20:20 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 20:20 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 20:20 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 20:20 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 20:20 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 20:20 | 1 |
| **Tetrachloroethene** | **43** | | 5.0 | 0.17 | ug/L | | | 12/18/14 20:20 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 20:20 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 20:20 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 20:20 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 20:20 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 20:20 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 20:20 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 20:20 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 20:20 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *75 - 125* | | *12/18/14 20:20* | *1* |
| *Toluene-d8 (Surr)* | *92* | | *75 - 120* | | *12/18/14 20:20* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *75 - 120* | | *12/18/14 20:20* | *1* |
| *Dibromofluoromethane* | *93* | | *75 - 120* | | *12/18/14 20:20* | *1* |

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

**Client Sample ID: MW6**
**Date Collected: 12/15/14 11:02**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-6**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 20:48 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 20:48 | 1 |
| **Vinyl chloride** | **19** | | 2.0 | 0.10 | ug/L | | | 12/18/14 20:48 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 20:48 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 20:48 | 1 |
| **1,1-Dichloroethene** | **7.0** | | 5.0 | 0.31 | ug/L | | | 12/18/14 20:48 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 20:48 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 20:48 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 20:48 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 20:48 | 1 |
| **1,1-Dichloroethane** | **7.7** | | 5.0 | 0.19 | ug/L | | | 12/18/14 20:48 | 1 |
| **cis-1,2-Dichloroethene** | **62** | | 5.0 | 0.12 | ug/L | | | 12/18/14 20:48 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 20:48 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 20:48 | 1 |
| **1,1,1-Trichloroethane** | **11** | | 5.0 | 0.20 | ug/L | | | 12/18/14 20:48 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 20:48 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 20:48 | 1 |
| **Trichloroethene** | **70** | | 5.0 | 0.19 | ug/L | | | 12/18/14 20:48 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 20:48 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 20:48 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 20:48 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 20:48 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 20:48 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 20:48 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 20:48 | 1 |
| **Tetrachloroethene** | **27** | | 5.0 | 0.17 | ug/L | | | 12/18/14 20:48 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 20:48 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 20:48 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 20:48 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 20:48 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 20:48 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 20:48 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 20:48 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 20:48 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *75 - 125* | | *12/18/14 20:48* | *1* |
| *Toluene-d8 (Surr)* | *92* | | *75 - 120* | | *12/18/14 20:48* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *75 - 120* | | *12/18/14 20:48* | *1* |
| *Dibromofluoromethane* | *94* | | *75 - 120* | | *12/18/14 20:48* | *1* |

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

**Client Sample ID: MW7**
**Date Collected: 12/15/14 10:15**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-7**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 21:15 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 21:15 | 1 |
| **Vinyl chloride** | **18** | | 2.0 | 0.10 | ug/L | | | 12/18/14 21:15 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 21:15 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 21:15 | 1 |
| **1,1-Dichloroethene** | **7.4** | | 5.0 | 0.31 | ug/L | | | 12/18/14 21:15 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 21:15 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 21:15 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 21:15 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 21:15 | 1 |
| **1,1-Dichloroethane** | **13** | | 5.0 | 0.19 | ug/L | | | 12/18/14 21:15 | 1 |
| **cis-1,2-Dichloroethene** | **130** | | 5.0 | 0.12 | ug/L | | | 12/18/14 21:15 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 21:15 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 21:15 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 21:15 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 21:15 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 21:15 | 1 |
| **Trichloroethene** | **11** | | 5.0 | 0.19 | ug/L | | | 12/18/14 21:15 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 21:15 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 21:15 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 21:15 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 21:15 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 21:15 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 21:15 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 21:15 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 21:15 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 21:15 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 21:15 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 21:15 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 21:15 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 21:15 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 21:15 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 21:15 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 21:15 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *75 - 125* | | *12/18/14 21:15* | *1* |
| *Toluene-d8 (Surr)* | *93* | | *75 - 120* | | *12/18/14 21:15* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *75 - 120* | | *12/18/14 21:15* | *1* |
| *Dibromofluoromethane* | *95* | | *75 - 120* | | *12/18/14 21:15* | *1* |

**Client Sample ID: MW8**
**Date Collected: 12/15/14 09:35**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-8**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 21:42 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 21:42 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 12/18/14 21:42 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 21:42 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 21:42 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 21:42 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 21:42 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 21:42 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 21:42 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 21:42 | 1 |
| **1,1-Dichloroethane** | **11** | | 5.0 | 0.19 | ug/L | | | 12/18/14 21:42 | 1 |
| **cis-1,2-Dichloroethene** | **14** | | 5.0 | 0.12 | ug/L | | | 12/18/14 21:42 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 21:42 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 21:42 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 21:42 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 21:42 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 21:42 | 1 |
| **Trichloroethene** | **30** | | 5.0 | 0.19 | ug/L | | | 12/18/14 21:42 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 21:42 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 21:42 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 21:42 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 21:42 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 21:42 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 21:42 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 21:42 | 1 |
| **Tetrachloroethene** | **5.1** | | 5.0 | 0.17 | ug/L | | | 12/18/14 21:42 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 21:42 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 21:42 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 21:42 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 21:42 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 21:42 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 21:42 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 21:42 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 21:42 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *101* | | *75 - 125* | | *12/18/14 21:42* | *1* |
| *Toluene-d8 (Surr)* | *89* | | *75 - 120* | | *12/18/14 21:42* | *1* |
| *4-Bromofluorobenzene (Surr)* | *100* | | *75 - 120* | | *12/18/14 21:42* | *1* |
| *Dibromofluoromethane* | *93* | | *75 - 120* | | *12/18/14 21:42* | *1* |

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

**Client Sample ID: MW9**
**Date Collected: 12/15/14 09:45**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-9**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 22:09 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 22:09 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 12/18/14 22:09 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 22:09 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 22:09 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 22:09 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 22:09 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 22:09 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 22:09 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 22:09 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/18/14 22:09 | 1 |
| cis-1,2-Dichloroethene | <5.0 | | 5.0 | 0.12 | ug/L | | | 12/18/14 22:09 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 22:09 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 22:09 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 22:09 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 22:09 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 22:09 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/18/14 22:09 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 22:09 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 22:09 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 22:09 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 22:09 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 22:09 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 22:09 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 22:09 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 22:09 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 22:09 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 22:09 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 22:09 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 22:09 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 22:09 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 22:09 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 22:09 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 22:09 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *75 - 125* | | *12/18/14 22:09* | *1* |
| *Toluene-d8 (Surr)* | *91* | | *75 - 120* | | *12/18/14 22:09* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *75 - 120* | | *12/18/14 22:09* | *1* |
| *Dibromofluoromethane* | *94* | | *75 - 120* | | *12/18/14 22:09* | *1* |

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

**Client Sample ID: F.B.**
**Date Collected: 12/15/14 14:30**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-10**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 22:37 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 22:37 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 12/18/14 22:37 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 22:37 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 22:37 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 22:37 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 22:37 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 22:37 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 22:37 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 22:37 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/18/14 22:37 | 1 |
| cis-1,2-Dichloroethene | <5.0 | | 5.0 | 0.12 | ug/L | | | 12/18/14 22:37 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 22:37 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 22:37 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 22:37 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 22:37 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 22:37 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/18/14 22:37 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 22:37 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 22:37 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 22:37 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 22:37 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 22:37 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 22:37 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 22:37 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 22:37 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 22:37 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 22:37 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 22:37 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 22:37 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 22:37 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 22:37 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 22:37 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 22:37 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *100* | | *75 - 125* | | *12/18/14 22:37* | *1* |
| *Toluene-d8 (Surr)* | *92* | | *75 - 120* | | *12/18/14 22:37* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *75 - 120* | | *12/18/14 22:37* | *1* |
| *Dibromofluoromethane* | *91* | | *75 - 120* | | *12/18/14 22:37* | *1* |

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

**Client Sample ID: Trip Blank**
**Date Collected: 12/15/14 00:00**
**Date Received: 12/16/14 10:30**

**Lab Sample ID: 500-89548-11**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/22/14 15:36 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/22/14 15:36 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 12/22/14 15:36 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/22/14 15:36 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/22/14 15:36 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/22/14 15:36 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/22/14 15:36 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/22/14 15:36 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/22/14 15:36 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/22/14 15:36 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/22/14 15:36 | 1 |
| cis-1,2-Dichloroethene | <5.0 | | 5.0 | 0.12 | ug/L | | | 12/22/14 15:36 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/22/14 15:36 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/22/14 15:36 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/22/14 15:36 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/22/14 15:36 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/22/14 15:36 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/22/14 15:36 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/22/14 15:36 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/22/14 15:36 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/22/14 15:36 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/22/14 15:36 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/22/14 15:36 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/22/14 15:36 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/22/14 15:36 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/22/14 15:36 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/22/14 15:36 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/22/14 15:36 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/22/14 15:36 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/22/14 15:36 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/22/14 15:36 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/22/14 15:36 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/22/14 15:36 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/22/14 15:36 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *75* | | *75 - 125* | | *12/22/14 15:36* | *1* |
| *Toluene-d8 (Surr)* | *93* | | *75 - 120* | | *12/22/14 15:36* | *1* |
| *4-Bromofluorobenzene (Surr)* | *90* | | *75 - 120* | | *12/22/14 15:36* | *1* |
| *Dibromofluoromethane* | *87* | | *75 - 120* | | *12/22/14 15:36* | *1* |

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| F1 | MS and/or MSD Recovery exceeds the control limits |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative error ratio |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

# QC Association Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

## GC/MS VOA

### Analysis Batch: 269146

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-89548-1 | MW1 | Total/NA | Water | 8260B | |
| 500-89548-2 | MW2 | Total/NA | Water | 8260B | |
| 500-89548-3 | MW3 | Total/NA | Water | 8260B | |
| 500-89548-4 | MW4 | Total/NA | Water | 8260B | |
| 500-89548-5 | MW5 | Total/NA | Water | 8260B | |
| 500-89548-6 | MW6 | Total/NA | Water | 8260B | |
| 500-89548-6 MS | MW6 | Total/NA | Water | 8260B | |
| 500-89548-6 MSD | MW6 | Total/NA | Water | 8260B | |
| 500-89548-7 | MW7 | Total/NA | Water | 8260B | |
| 500-89548-8 | MW8 | Total/NA | Water | 8260B | |
| 500-89548-9 | MW9 | Total/NA | Water | 8260B | |
| 500-89548-10 | F.B. | Total/NA | Water | 8260B | |
| LCS 500-269146/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| MB 500-269146/6 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 269611

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-89548-11 | Trip Blank | Total/NA | Water | 8260B | |
| LCS 500-269611/6 | Lab Control Sample | Total/NA | Water | 8260B | |
| MB 500-269611/8 | Method Blank | Total/NA | Water | 8260B | |

# Surrogate Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Water**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| Lab Sample ID | Client Sample ID | 12DCE (75-125) | TOL (75-120) | BFB (75-120) | DBFM (75-120) |
| 500-89548-1 | MW1 | 98 | 91 | 102 | 93 |
| 500-89548-2 | MW2 | 97 | 91 | 99 | 91 |
| 500-89548-3 | MW3 | 100 | 90 | 100 | 94 |
| 500-89548-4 | MW4 | 103 | 91 | 103 | 93 |
| 500-89548-5 | MW5 | 100 | 92 | 99 | 93 |
| 500-89548-6 | MW6 | 100 | 92 | 98 | 94 |
| 500-89548-6 MS | MW6 | 99 | 91 | 102 | 96 |
| 500-89548-6 MSD | MW6 | 103 | 91 | 102 | 92 |
| 500-89548-7 | MW7 | 100 | 93 | 103 | 95 |
| 500-89548-8 | MW8 | 101 | 89 | 100 | 93 |
| 500-89548-9 | MW9 | 100 | 91 | 103 | 94 |
| 500-89548-10 | F.B. | 100 | 92 | 103 | 91 |
| 500-89548-11 | Trip Blank | 75 | 93 | 90 | 87 |
| LCS 500-269146/4 | Lab Control Sample | 98 | 91 | 104 | 93 |
| LCS 500-269611/6 | Lab Control Sample | 75 | 94 | 98 | 89 |
| MB 500-269146/6 | Method Blank | 98 | 88 | 102 | 92 |
| MB 500-269611/8 | Method Blank | 76 | 92 | 97 | 88 |

**Surrogate Legend**

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 500-269146/6**
**Matrix: Water**
**Analysis Batch: 269146**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/18/14 14:12 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 14:12 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 12/18/14 14:12 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 14:12 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/18/14 14:12 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/18/14 14:12 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/18/14 14:12 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/18/14 14:12 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/18/14 14:12 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/18/14 14:12 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/18/14 14:12 | 1 |
| cis-1,2-Dichloroethene | <5.0 | | 5.0 | 0.12 | ug/L | | | 12/18/14 14:12 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/18/14 14:12 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 14:12 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 14:12 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/18/14 14:12 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 14:12 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/18/14 14:12 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/18/14 14:12 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 14:12 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/18/14 14:12 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/18/14 14:12 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/18/14 14:12 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/18/14 14:12 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 14:12 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/18/14 14:12 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/18/14 14:12 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/18/14 14:12 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/18/14 14:12 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/18/14 14:12 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/18/14 14:12 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/18/14 14:12 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/18/14 14:12 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/18/14 14:12 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *75 - 125* | | *12/18/14 14:12* | *1* |
| *Toluene-d8 (Surr)* | *88* | | *75 - 120* | | *12/18/14 14:12* | *1* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *75 - 120* | | *12/18/14 14:12* | *1* |
| *Dibromofluoromethane* | *92* | | *75 - 120* | | *12/18/14 14:12* | *1* |

**Lab Sample ID: LCS 500-269146/4**
**Matrix: Water**
**Analysis Batch: 269146**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 42.4 | | ug/L | | 85 | 75 - 120 |
| Chloromethane | 50.0 | 64.8 | | ug/L | | 130 | 63 - 133 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 500-269146/4**
**Matrix: Water**
**Analysis Batch: 269146**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Vinyl chloride | 50.0 | 46.3 | | ug/L | | 93 | 72 - 123 |
| Bromomethane | 50.0 | 39.6 | | ug/L | | 79 | 45 - 169 |
| Chloroethane | 50.0 | 34.9 | | ug/L | | 70 | 58 - 147 |
| 1,1-Dichloroethene | 50.0 | 42.4 | | ug/L | | 85 | 69 - 120 |
| Carbon disulfide | 50.0 | 40.6 | | ug/L | | 81 | 56 - 130 |
| Acetone | 50.0 | 55.5 | | ug/L | | 111 | 48 - 149 |
| Methylene Chloride | 50.0 | 43.8 | | ug/L | | 88 | 73 - 130 |
| trans-1,2-Dichloroethene | 50.0 | 44.0 | | ug/L | | 88 | 77 - 120 |
| 1,1-Dichloroethane | 50.0 | 46.5 | | ug/L | | 93 | 75 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 43.1 | | ug/L | | 86 | 75 - 120 |
| Methyl Ethyl Ketone | 50.0 | 61.8 | | ug/L | | 124 | 53 - 142 |
| Chloroform | 50.0 | 46.3 | | ug/L | | 93 | 76 - 120 |
| 1,1,1-Trichloroethane | 50.0 | 47.4 | | ug/L | | 95 | 72 - 130 |
| Carbon tetrachloride | 50.0 | 48.0 | | ug/L | | 96 | 70 - 130 |
| 1,2-Dichloroethane | 50.0 | 48.8 | | ug/L | | 98 | 69 - 130 |
| Trichloroethene | 50.0 | 46.2 | | ug/L | | 92 | 75 - 120 |
| 1,2-Dichloropropane | 50.0 | 47.3 | | ug/L | | 95 | 75 - 120 |
| Bromodichloromethane | 50.0 | 48.4 | | ug/L | | 97 | 77 - 121 |
| cis-1,3-Dichloropropene | 50.0 | 47.5 | | ug/L | | 95 | 78 - 130 |
| methyl isobutyl ketone | 50.0 | 63.4 | | ug/L | | 127 | 58 - 135 |
| Toluene | 50.0 | 43.2 | | ug/L | | 86 | 75 - 120 |
| trans-1,3-Dichloropropene | 50.0 | 51.3 | | ug/L | | 103 | 74 - 130 |
| 1,1,2-Trichloroethane | 50.0 | 46.0 | | ug/L | | 92 | 75 - 120 |
| Tetrachloroethene | 50.0 | 46.3 | | ug/L | | 93 | 75 - 120 |
| 2-Hexanone | 50.0 | 67.3 | | ug/L | | 135 | 55 - 140 |
| Dibromochloromethane | 50.0 | 52.6 | | ug/L | | 105 | 71 - 126 |
| Chlorobenzene | 50.0 | 45.0 | | ug/L | | 90 | 75 - 120 |
| Ethylbenzene | 50.0 | 45.4 | | ug/L | | 91 | 75 - 120 |
| Styrene | 50.0 | 47.4 | | ug/L | | 95 | 75 - 120 |
| Bromoform | 50.0 | 52.9 | | ug/L | | 106 | 68 - 126 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 53.6 | | ug/L | | 107 | 72 - 130 |
| Xylenes, Total | 100 | 93.3 | | ug/L | | 93 | 75 - 120 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *98* | | *75 - 125* |
| *Toluene-d8 (Surr)* | *91* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *75 - 120* |
| *Dibromofluoromethane* | *93* | | *75 - 120* |

**Lab Sample ID: 500-89548-6 MS**
**Matrix: Water**
**Analysis Batch: 269146**

**Client Sample ID: MW6**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 50.0 | 42.2 | | ug/L | | 84 | 75 - 120 |
| Chloromethane | <5.0 | | 50.0 | 67.2 | F1 | ug/L | | 134 | 63 - 133 |
| Vinyl chloride | 19 | | 50.0 | 68.7 | | ug/L | | 99 | 72 - 123 |
| Bromomethane | <5.0 | | 50.0 | 42.4 | | ug/L | | 85 | 45 - 169 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 500-89548-6 MS**
**Matrix: Water**
**Analysis Batch: 269146**

**Client Sample ID: MW6**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Chloroethane | <5.0 | | 50.0 | 40.6 | | ug/L | | 81 | 58 - 147 |
| 1,1-Dichloroethene | 7.0 | | 50.0 | 48.0 | | ug/L | | 82 | 69 - 120 |
| Carbon disulfide | <5.0 | | 50.0 | 39.0 | | ug/L | | 78 | 56 - 130 |
| Acetone | <20 | | 50.0 | 59.2 | | ug/L | | 100 | 48 - 149 |
| Methylene Chloride | <10 | | 50.0 | 42.1 | | ug/L | | 84 | 73 - 130 |
| trans-1,2-Dichloroethene | <5.0 | | 50.0 | 44.5 | | ug/L | | 86 | 77 - 120 |
| 1,1-Dichloroethane | 7.7 | | 50.0 | 52.4 | | ug/L | | 89 | 75 - 120 |
| cis-1,2-Dichloroethene | 62 | | 50.0 | 105 | | ug/L | | 85 | 75 - 120 |
| Methyl Ethyl Ketone | <20 | | 50.0 | 61.2 | | ug/L | | 122 | 53 - 142 |
| Chloroform | <5.0 | | 50.0 | 46.8 | | ug/L | | 94 | 76 - 120 |
| 1,1,1-Trichloroethane | 11 | | 50.0 | 59.6 | | ug/L | | 97 | 72 - 130 |
| Carbon tetrachloride | <5.0 | | 50.0 | 48.3 | | ug/L | | 97 | 70 - 130 |
| 1,2-Dichloroethane | <5.0 | | 50.0 | 48.1 | | ug/L | | 96 | 69 - 130 |
| Trichloroethene | 70 | | 50.0 | 109 | | ug/L | | 79 | 75 - 120 |
| 1,2-Dichloropropane | <5.0 | | 50.0 | 47.1 | | ug/L | | 94 | 75 - 120 |
| Bromodichloromethane | <5.0 | | 50.0 | 47.4 | | ug/L | | 95 | 77 - 121 |
| cis-1,3-Dichloropropene | <5.0 | | 50.0 | 46.8 | | ug/L | | 94 | 78 - 130 |
| methyl isobutyl ketone | <20 | | 50.0 | 63.2 | | ug/L | | 126 | 58 - 135 |
| Toluene | <5.0 | | 50.0 | 43.3 | | ug/L | | 87 | 75 - 120 |
| trans-1,3-Dichloropropene | <5.0 | | 50.0 | 48.1 | | ug/L | | 96 | 74 - 130 |
| 1,1,2-Trichloroethane | <5.0 | | 50.0 | 44.5 | | ug/L | | 89 | 75 - 120 |
| Tetrachloroethene | 27 | | 50.0 | 69.3 | | ug/L | | 84 | 75 - 120 |
| 2-Hexanone | <20 | | 50.0 | 65.9 | | ug/L | | 132 | 55 - 140 |
| Dibromochloromethane | <5.0 | | 50.0 | 50.7 | | ug/L | | 101 | 71 - 126 |
| Chlorobenzene | <5.0 | | 50.0 | 43.4 | | ug/L | | 87 | 75 - 120 |
| Ethylbenzene | <5.0 | | 50.0 | 43.9 | | ug/L | | 88 | 75 - 120 |
| Styrene | <5.0 | | 50.0 | 45.8 | | ug/L | | 92 | 75 - 120 |
| Bromoform | <5.0 | | 50.0 | 50.1 | | ug/L | | 100 | 68 - 126 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 50.0 | 49.0 | | ug/L | | 98 | 72 - 130 |
| Xylenes, Total | <5.0 | | 100 | 91.1 | | ug/L | | 91 | 75 - 120 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *99* | | *75 - 125* |
| *Toluene-d8 (Surr)* | *91* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *75 - 120* |
| *Dibromofluoromethane* | *96* | | *75 - 120* |

**Lab Sample ID: 500-89548-6 MSD**
**Matrix: Water**
**Analysis Batch: 269146**

**Client Sample ID: MW6**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 50.0 | 41.9 | | ug/L | | 84 | 75 - 120 | 1 | 20 |
| Chloromethane | <5.0 | | 50.0 | 63.0 | | ug/L | | 126 | 63 - 133 | 6 | 20 |
| Vinyl chloride | 19 | | 50.0 | 68.0 | | ug/L | | 98 | 72 - 123 | 1 | 20 |
| Bromomethane | <5.0 | | 50.0 | 39.4 | | ug/L | | 79 | 45 - 169 | 7 | 20 |
| Chloroethane | <5.0 | | 50.0 | 40.3 | | ug/L | | 81 | 58 - 147 | 1 | 20 |
| 1,1-Dichloroethene | 7.0 | | 50.0 | 49.4 | | ug/L | | 85 | 69 - 120 | 3 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 500-89548-6 MSD**
**Matrix: Water**
**Analysis Batch: 269146**

**Client Sample ID: MW6**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Carbon disulfide | <5.0 | | 50.0 | 39.7 | | ug/L | | 79 | 56 - 130 | 2 | 20 |
| Acetone | <20 | | 50.0 | 63.8 | | ug/L | | 109 | 48 - 149 | 8 | 20 |
| Methylene Chloride | <10 | | 50.0 | 41.2 | | ug/L | | 82 | 73 - 130 | 2 | 20 |
| trans-1,2-Dichloroethene | <5.0 | | 50.0 | 46.0 | | ug/L | | 89 | 77 - 120 | 3 | 20 |
| 1,1-Dichloroethane | 7.7 | | 50.0 | 53.8 | | ug/L | | 92 | 75 - 120 | 3 | 20 |
| cis-1,2-Dichloroethene | 62 | | 50.0 | 108 | | ug/L | | 92 | 75 - 120 | 3 | 20 |
| Methyl Ethyl Ketone | <20 | | 50.0 | 56.6 | | ug/L | | 113 | 53 - 142 | 8 | 20 |
| Chloroform | <5.0 | | 50.0 | 47.2 | | ug/L | | 94 | 76 - 120 | 1 | 20 |
| 1,1,1-Trichloroethane | 11 | | 50.0 | 60.3 | | ug/L | | 98 | 72 - 130 | 1 | 20 |
| Carbon tetrachloride | <5.0 | | 50.0 | 47.3 | | ug/L | | 95 | 70 - 130 | 2 | 20 |
| 1,2-Dichloroethane | <5.0 | | 50.0 | 49.0 | | ug/L | | 98 | 69 - 130 | 2 | 20 |
| Trichloroethene | 70 | | 50.0 | 116 | | ug/L | | 92 | 75 - 120 | 6 | 20 |
| 1,2-Dichloropropane | <5.0 | | 50.0 | 45.9 | | ug/L | | 92 | 75 - 120 | 3 | 20 |
| Bromodichloromethane | <5.0 | | 50.0 | 48.4 | | ug/L | | 97 | 77 - 121 | 2 | 20 |
| cis-1,3-Dichloropropene | <5.0 | | 50.0 | 46.7 | | ug/L | | 93 | 78 - 130 | 0 | 20 |
| methyl isobutyl ketone | <20 | | 50.0 | 60.9 | | ug/L | | 122 | 58 - 135 | 4 | 20 |
| Toluene | <5.0 | | 50.0 | 43.7 | | ug/L | | 87 | 75 - 120 | 1 | 20 |
| trans-1,3-Dichloropropene | <5.0 | | 50.0 | 49.1 | | ug/L | | 98 | 74 - 130 | 2 | 20 |
| 1,1,2-Trichloroethane | <5.0 | | 50.0 | 43.4 | | ug/L | | 87 | 75 - 120 | 2 | 20 |
| Tetrachloroethene | 27 | | 50.0 | 72.3 | | ug/L | | 90 | 75 - 120 | 4 | 20 |
| 2-Hexanone | <20 | | 50.0 | 62.6 | | ug/L | | 125 | 55 - 140 | 5 | 20 |
| Dibromochloromethane | <5.0 | | 50.0 | 51.4 | | ug/L | | 103 | 71 - 126 | 1 | 20 |
| Chlorobenzene | <5.0 | | 50.0 | 44.6 | | ug/L | | 89 | 75 - 120 | 3 | 20 |
| Ethylbenzene | <5.0 | | 50.0 | 43.7 | | ug/L | | 87 | 75 - 120 | 1 | 20 |
| Styrene | <5.0 | | 50.0 | 46.9 | | ug/L | | 94 | 75 - 120 | 2 | 20 |
| Bromoform | <5.0 | | 50.0 | 50.9 | | ug/L | | 102 | 68 - 126 | 2 | 20 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 50.0 | 50.8 | | ug/L | | 102 | 72 - 130 | 4 | 20 |
| Xylenes, Total | <5.0 | | 100 | 93.2 | | ug/L | | 93 | 75 - 120 | 2 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *103* | | *75 - 125* |
| *Toluene-d8 (Surr)* | *91* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *102* | | *75 - 120* |
| *Dibromofluoromethane* | *92* | | *75 - 120* |

**Lab Sample ID: MB 500-269611/8**
**Matrix: Water**
**Analysis Batch: 269611**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 12/22/14 15:09 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/22/14 15:09 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 12/22/14 15:09 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/22/14 15:09 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 12/22/14 15:09 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 12/22/14 15:09 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 12/22/14 15:09 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 12/22/14 15:09 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 500-269611/8**
**Matrix: Water**
**Analysis Batch: 269611**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 12/22/14 15:09 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 12/22/14 15:09 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/22/14 15:09 | 1 |
| cis-1,2-Dichloroethene | <5.0 | | 5.0 | 0.12 | ug/L | | | 12/22/14 15:09 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 12/22/14 15:09 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/22/14 15:09 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/22/14 15:09 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 12/22/14 15:09 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/22/14 15:09 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 12/22/14 15:09 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 12/22/14 15:09 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/22/14 15:09 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 12/22/14 15:09 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 12/22/14 15:09 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 12/22/14 15:09 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 12/22/14 15:09 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/22/14 15:09 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 12/22/14 15:09 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 12/22/14 15:09 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 12/22/14 15:09 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 12/22/14 15:09 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 12/22/14 15:09 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 12/22/14 15:09 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 12/22/14 15:09 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 12/22/14 15:09 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 12/22/14 15:09 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *76* | | *75 - 125* | | *12/22/14 15:09* | *1* |
| *Toluene-d8 (Surr)* | *92* | | *75 - 120* | | *12/22/14 15:09* | *1* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *75 - 120* | | *12/22/14 15:09* | *1* |
| *Dibromofluoromethane* | *88* | | *75 - 120* | | *12/22/14 15:09* | *1* |

**Lab Sample ID: LCS 500-269611/6**
**Matrix: Water**
**Analysis Batch: 269611**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 44.2 | | ug/L | | 88 | 75 - 120 |
| Chloromethane | 50.0 | 63.0 | | ug/L | | 126 | 63 - 133 |
| Vinyl chloride | 50.0 | 51.5 | | ug/L | | 103 | 72 - 123 |
| Bromomethane | 50.0 | 39.6 | | ug/L | | 79 | 45 - 169 |
| Chloroethane | 50.0 | 40.7 | | ug/L | | 81 | 58 - 147 |
| 1,1-Dichloroethene | 50.0 | 46.7 | | ug/L | | 93 | 69 - 120 |
| Carbon disulfide | 50.0 | 43.8 | | ug/L | | 88 | 56 - 130 |
| Acetone | 50.0 | 44.2 | | ug/L | | 88 | 48 - 149 |
| Methylene Chloride | 50.0 | 44.7 | | ug/L | | 89 | 73 - 130 |
| trans-1,2-Dichloroethene | 50.0 | 47.2 | | ug/L | | 94 | 77 - 120 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 500-269611/6**
**Matrix: Water**
**Analysis Batch: 269611**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 50.0 | 45.3 | | ug/L | | 91 | 75 - 120 |
| cis-1,2-Dichloroethene | 50.0 | 46.6 | | ug/L | | 93 | 75 - 120 |
| Methyl Ethyl Ketone | 50.0 | 48.0 | | ug/L | | 96 | 53 - 142 |
| Chloroform | 50.0 | 42.7 | | ug/L | | 85 | 76 - 120 |
| 1,1,1-Trichloroethane | 50.0 | 42.5 | | ug/L | | 85 | 72 - 130 |
| Carbon tetrachloride | 50.0 | 43.4 | | ug/L | | 87 | 70 - 130 |
| 1,2-Dichloroethane | 50.0 | 38.1 | | ug/L | | 76 | 69 - 130 |
| Trichloroethene | 50.0 | 47.9 | | ug/L | | 96 | 75 - 120 |
| 1,2-Dichloropropane | 50.0 | 48.1 | | ug/L | | 96 | 75 - 120 |
| Bromodichloromethane | 50.0 | 44.5 | | ug/L | | 89 | 77 - 121 |
| cis-1,3-Dichloropropene | 50.0 | 47.2 | | ug/L | | 94 | 78 - 130 |
| methyl isobutyl ketone | 50.0 | 56.5 | | ug/L | | 113 | 58 - 135 |
| Toluene | 50.0 | 47.8 | | ug/L | | 96 | 75 - 120 |
| trans-1,3-Dichloropropene | 50.0 | 46.7 | | ug/L | | 93 | 74 - 130 |
| 1,1,2-Trichloroethane | 50.0 | 49.7 | | ug/L | | 99 | 75 - 120 |
| Tetrachloroethene | 50.0 | 46.7 | | ug/L | | 93 | 75 - 120 |
| 2-Hexanone | 50.0 | 57.5 | | ug/L | | 115 | 55 - 140 |
| Dibromochloromethane | 50.0 | 53.2 | | ug/L | | 106 | 71 - 126 |
| Chlorobenzene | 50.0 | 48.1 | | ug/L | | 96 | 75 - 120 |
| Ethylbenzene | 50.0 | 46.7 | | ug/L | | 93 | 75 - 120 |
| Styrene | 50.0 | 48.6 | | ug/L | | 97 | 75 - 120 |
| Bromoform | 50.0 | 52.0 | | ug/L | | 104 | 68 - 126 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 55.0 | | ug/L | | 110 | 72 - 130 |
| Xylenes, Total | 100 | 95.0 | | ug/L | | 95 | 75 - 120 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *75* | | *75 - 125* |
| *Toluene-d8 (Surr)* | *94* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *75 - 120* |
| *Dibromofluoromethane* | *89* | | *75 - 120* |

# Lab Chronicle

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

## Client Sample ID: MW1

**Lab Sample ID: 500-89548-1**

**Date Collected: 12/15/14 14:20**
**Matrix: Water**
**Date Received: 12/16/14 10:30**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269146 | 12/18/14 18:29 | DJD | TAL CHI |

## Client Sample ID: MW2

**Lab Sample ID: 500-89548-2**

**Date Collected: 12/15/14 13:54**
**Matrix: Water**
**Date Received: 12/16/14 10:30**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269146 | 12/18/14 18:57 | DJD | TAL CHI |

## Client Sample ID: MW3

**Lab Sample ID: 500-89548-3**

**Date Collected: 12/15/14 13:12**
**Matrix: Water**
**Date Received: 12/16/14 10:30**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269146 | 12/18/14 19:25 | DJD | TAL CHI |

## Client Sample ID: MW4

**Lab Sample ID: 500-89548-4**

**Date Collected: 12/15/14 12:31**
**Matrix: Water**
**Date Received: 12/16/14 10:30**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269146 | 12/18/14 19:52 | DJD | TAL CHI |

## Client Sample ID: MW5

**Lab Sample ID: 500-89548-5**

**Date Collected: 12/15/14 11:50**
**Matrix: Water**
**Date Received: 12/16/14 10:30**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269146 | 12/18/14 20:20 | DJD | TAL CHI |

## Client Sample ID: MW6

**Lab Sample ID: 500-89548-6**

**Date Collected: 12/15/14 11:02**
**Matrix: Water**
**Date Received: 12/16/14 10:30**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269146 | 12/18/14 20:48 | DJD | TAL CHI |

# Lab Chronicle

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

## Client Sample ID: MW7

**Lab Sample ID: 500-89548-7**

**Date Collected: 12/15/14 10:15**
**Date Received: 12/16/14 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269146 | 12/18/14 21:15 | DJD | TAL CHI |

## Client Sample ID: MW8

**Lab Sample ID: 500-89548-8**

**Date Collected: 12/15/14 09:35**
**Date Received: 12/16/14 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269146 | 12/18/14 21:42 | DJD | TAL CHI |

## Client Sample ID: MW9

**Lab Sample ID: 500-89548-9**

**Date Collected: 12/15/14 09:45**
**Date Received: 12/16/14 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269146 | 12/18/14 22:09 | DJD | TAL CHI |

## Client Sample ID: F.B.

**Lab Sample ID: 500-89548-10**

**Date Collected: 12/15/14 14:30**
**Date Received: 12/16/14 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269146 | 12/18/14 22:37 | DJD | TAL CHI |

## Client Sample ID: Trip Blank

**Lab Sample ID: 500-89548-11**

**Date Collected: 12/15/14 00:00**
**Date Received: 12/16/14 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 269611 | 12/22/14 15:36 | DJD | TAL CHI |

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Certification Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-89548-1

## Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| Illinois | NELAP | 5 | 100201 | 04-30-15 |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact:
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

## Chain of Custody Record

Lab Job #: 500- 89548
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 3.4

Client: EIL/IPC | Client Project #:
Project Name: IPC
Project Location/State: Rockford Illinois | Lab Project #: 50001225
Sampler: | Lab PM:

Preservative Key

500-89548 COC

| Lab ID | MS/MSD | Sample ID | Sampling Date | Sampling Time | # of Containers | Matrix | Preservative / Parameter: VOC | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | MW1 | 12-15-14 | 1420 | 3 | W | X | | | | | | | | |
| 2 | | MW2 | | 1345 | | | | | | | | | | | |
| 3 | | MW3 | | 1312 | | | | | | | | | | | |
| 4 | | MW4 | | 1231 | | | | | | | | | | | |
| 5 | | MW5 | | 1150 | ↓ | | | | | | | | | | |
| 6 | X | MW6 | | 1102 | 9 | | | | | | | | | | |
| 7 | | MW7 | | 1015 | 3 | | | | | | | | | | |
| 8 | | MW8 | | 935 | | | | | | | | | | | |
| 9 | | MW9 | | 945 | | | | | | | | | | | |
| 10 | | FB. | ↓ | 1430 | ↓ | ↓ | ↓ | | | | | | | | |

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
|---|---|---|---|---|---|---|---|
| [signature] | Eaheno | 12-15-14 | 1600 | [signature] | TAL | 12/16/14 | 1030 |
| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |

Lab Courier
Shipped
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

# Login Sample Receipt Checklist

Client: Environmental Information Logistics (EIL

Job Number: 500-89548-1

**Login Number: 89548**
**List Number: 1**
**Creator: Kelsey, Shawn M**

**List Source: TestAmerica Chicago**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 3.4c |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | True | |

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-97809-1
Client Project/Site: Interstate Pollution Control Site

For:
Environmental Information Logistics (EIL
1941 Highland Avenue
Beloit, Wisconsin 53511

Attn: Ms. Mary Pearson

*Authorized for release by:*
*7/8/2015 10:36:39 AM*

Richard Wright, Senior Project Manager
(708)534-5200
richard.wright@testamericainc.com

# Table of Contents

# Case Narrative

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## Job ID: 500-97809-1

**Laboratory: TestAmerica Chicago**

**Narrative**

**Job Narrative**
**500-97809-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 6/25/2015 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

**Receipt Exceptions**
A trip blank was submitted for analysis with these samples and was not listed on the Chain of Custody (COC), however it was logged in based on past sampling events.

**GC/MS VOA**
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## Client Sample ID: IPC GW MW8 — Lab Sample ID: 500-97809-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 5.4 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 9.3 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 29 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 6.0 | | 5.0 | 0.17 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: IPC GW MW9 — Lab Sample ID: 500-97809-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,2-Dichloroethene | 7.0 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: IPC GW MW7 — Lab Sample ID: 500-97809-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 27 | | 2.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 11 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 89 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 7.0 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: IPC GW MW6 — Lab Sample ID: 500-97809-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 24 | | 2.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 5.6 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 54 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| 1,1,1-Trichloroethane | 8.1 | | 5.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 48 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 17 | | 5.0 | 0.17 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: IPC GW MW5 — Lab Sample ID: 500-97809-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 11 | | 5.0 | 0.31 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 28 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| 1,1,1-Trichloroethane | 11 | | 5.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 150 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 49 | | 5.0 | 0.17 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: IPC GW MW4 — Lab Sample ID: 500-97809-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 30 | | 2.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 6.0 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 35 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| 1,1,1-Trichloroethane | 5.8 | | 5.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: IPC GW MW3 — Lab Sample ID: 500-97809-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | 6.8 | | 5.0 | 0.31 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 21 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## Client Sample ID: IPC GW MW3 (Continued)

Lab Sample ID: 500-97809-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 7.4 | | 5.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 170 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 41 | | 5.0 | 0.17 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: IPC GW MW2

Lab Sample ID: 500-97809-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 2.2 | | 2.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethene | 6.9 | | 5.0 | 0.31 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 33 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| 1,1,1-Trichloroethane | 6.8 | | 5.0 | 0.20 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 150 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| Tetrachloroethene | 31 | | 5.0 | 0.17 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: IPC GW MW1

Lab Sample ID: 500-97809-9

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | 25 | | 2.0 | 0.10 | ug/L | 1 | | 8260B | Total/NA |
| 1,1-Dichloroethane | 11 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |
| cis-1,2-Dichloroethene | 86 | | 5.0 | 0.12 | ug/L | 1 | | 8260B | Total/NA |
| Trichloroethene | 7.0 | | 5.0 | 0.19 | ug/L | 1 | | 8260B | Total/NA |

## Client Sample ID: IPC GW FB

Lab Sample ID: 500-97809-10

No Detections.

## Client Sample ID: Trip Blank

Lab Sample ID: 500-97809-11

No Detections.

This Detection Summary does not include radiochemical test results.

# Method Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL CHI |

**Protocol References:**

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Sample Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 500-97809-1 | IPC GW MW8 | Water | 06/24/15 08:40 | 06/25/15 10:30 |
| 500-97809-2 | IPC GW MW9 | Water | 06/24/15 08:54 | 06/25/15 10:30 |
| 500-97809-3 | IPC GW MW7 | Water | 06/24/15 09:10 | 06/25/15 10:30 |
| 500-97809-4 | IPC GW MW6 | Water | 06/24/15 10:54 | 06/25/15 10:30 |
| 500-97809-5 | IPC GW MW5 | Water | 06/24/15 11:36 | 06/25/15 10:30 |
| 500-97809-6 | IPC GW MW4 | Water | 06/24/15 12:12 | 06/25/15 10:30 |
| 500-97809-7 | IPC GW MW3 | Water | 06/24/15 12:45 | 06/25/15 10:30 |
| 500-97809-8 | IPC GW MW2 | Water | 06/24/15 13:15 | 06/25/15 10:30 |
| 500-97809-9 | IPC GW MW1 | Water | 06/24/15 13:55 | 06/25/15 10:30 |
| 500-97809-10 | IPC GW FB | Water | 06/24/15 14:05 | 06/25/15 10:30 |
| 500-97809-11 | Trip Blank | Water | 06/24/15 00:00 | 06/25/15 10:30 |

# Client Sample Results

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## Client Sample ID: IPC GW MW8

**Lab Sample ID: 500-97809-1**

**Date Collected: 06/24/15 08:40**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 13:35 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 13:35 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 07/07/15 13:35 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 13:35 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 13:35 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 13:35 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 13:35 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 13:35 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 13:35 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 13:35 | 1 |
| **1,1-Dichloroethane** | **5.4** | | 5.0 | 0.19 | ug/L | | | 07/07/15 13:35 | 1 |
| **cis-1,2-Dichloroethene** | **9.3** | | 5.0 | 0.12 | ug/L | | | 07/07/15 13:35 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 13:35 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 13:35 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 13:35 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 13:35 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 13:35 | 1 |
| **Trichloroethene** | **29** | | 5.0 | 0.19 | ug/L | | | 07/07/15 13:35 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 13:35 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 13:35 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 13:35 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 13:35 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 13:35 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 13:35 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 13:35 | 1 |
| **Tetrachloroethene** | **6.0** | | 5.0 | 0.17 | ug/L | | | 07/07/15 13:35 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 13:35 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 13:35 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 13:35 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 13:35 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 13:35 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 13:35 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 13:35 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 13:35 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *75 - 125* | | *07/07/15 13:35* | *1* |
| *Toluene-d8 (Surr)* | *106* | | *75 - 120* | | *07/07/15 13:35* | *1* |
| *4-Bromofluorobenzene (Surr)* | *96* | | *75 - 120* | | *07/07/15 13:35* | *1* |
| *Dibromofluoromethane* | *93* | | *75 - 120* | | *07/07/15 13:35* | *1* |

## Client Sample ID: IPC GW MW9

**Date Collected: 06/24/15 08:54**
**Date Received: 06/25/15 10:30**

## Lab Sample ID: 500-97809-2

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 14:02 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 14:02 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 07/07/15 14:02 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 14:02 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 14:02 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 14:02 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 14:02 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 14:02 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 14:02 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 14:02 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 14:02 | 1 |
| **cis-1,2-Dichloroethene** | **7.0** | | 5.0 | 0.12 | ug/L | | | 07/07/15 14:02 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 14:02 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 14:02 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 14:02 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 14:02 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 14:02 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 14:02 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 14:02 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 14:02 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 14:02 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 14:02 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 14:02 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 14:02 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 14:02 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 14:02 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 14:02 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 14:02 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 14:02 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 14:02 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 14:02 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 14:02 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 14:02 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 14:02 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *75 - 125* | | *07/07/15 14:02* | *1* |
| *Toluene-d8 (Surr)* | *105* | | *75 - 120* | | *07/07/15 14:02* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *75 - 120* | | *07/07/15 14:02* | *1* |
| *Dibromofluoromethane* | *91* | | *75 - 120* | | *07/07/15 14:02* | *1* |

## Client Sample ID: IPC GW MW7

**Date Collected: 06/24/15 09:10**
**Date Received: 06/25/15 10:30**

## Lab Sample ID: 500-97809-3

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 14:30 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 14:30 | 1 |
| **Vinyl chloride** | **27** | | 2.0 | 0.10 | ug/L | | | 07/07/15 14:30 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 14:30 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 14:30 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 14:30 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 14:30 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 14:30 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 14:30 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 14:30 | 1 |
| **1,1-Dichloroethane** | **11** | | 5.0 | 0.19 | ug/L | | | 07/07/15 14:30 | 1 |
| **cis-1,2-Dichloroethene** | **89** | | 5.0 | 0.12 | ug/L | | | 07/07/15 14:30 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 14:30 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 14:30 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 14:30 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 14:30 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 14:30 | 1 |
| **Trichloroethene** | **7.0** | | 5.0 | 0.19 | ug/L | | | 07/07/15 14:30 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 14:30 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 14:30 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 14:30 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 14:30 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 14:30 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 14:30 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 14:30 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 14:30 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 14:30 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 14:30 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 14:30 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 14:30 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 14:30 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 14:30 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 14:30 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 14:30 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *75 - 125* | | *07/07/15 14:30* | *1* |
| *Toluene-d8 (Surr)* | *104* | | *75 - 120* | | *07/07/15 14:30* | *1* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *75 - 120* | | *07/07/15 14:30* | *1* |
| *Dibromofluoromethane* | *94* | | *75 - 120* | | *07/07/15 14:30* | *1* |

# Client Sample Results

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## Client Sample ID: IPC GW MW6

**Lab Sample ID: 500-97809-4**

**Date Collected: 06/24/15 10:54**
**Matrix: Water**
**Date Received: 06/25/15 10:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 14:58 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 14:58 | 1 |
| **Vinyl chloride** | **24** | | 2.0 | 0.10 | ug/L | | | 07/07/15 14:58 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 14:58 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 14:58 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 14:58 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 14:58 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 14:58 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 14:58 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 14:58 | 1 |
| **1,1-Dichloroethane** | **5.6** | | 5.0 | 0.19 | ug/L | | | 07/07/15 14:58 | 1 |
| **cis-1,2-Dichloroethene** | **54** | | 5.0 | 0.12 | ug/L | | | 07/07/15 14:58 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 14:58 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 14:58 | 1 |
| **1,1,1-Trichloroethane** | **8.1** | | 5.0 | 0.20 | ug/L | | | 07/07/15 14:58 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 14:58 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 14:58 | 1 |
| **Trichloroethene** | **48** | | 5.0 | 0.19 | ug/L | | | 07/07/15 14:58 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 14:58 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 14:58 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 14:58 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 14:58 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 14:58 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 14:58 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 14:58 | 1 |
| **Tetrachloroethene** | **17** | | 5.0 | 0.17 | ug/L | | | 07/07/15 14:58 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 14:58 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 14:58 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 14:58 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 14:58 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 14:58 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 14:58 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 14:58 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 14:58 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *92* | | *75 - 125* | | *07/07/15 14:58* | *1* |
| *Toluene-d8 (Surr)* | *104* | | *75 - 120* | | *07/07/15 14:58* | *1* |
| *4-Bromofluorobenzene (Surr)* | *96* | | *75 - 120* | | *07/07/15 14:58* | *1* |
| *Dibromofluoromethane* | *96* | | *75 - 120* | | *07/07/15 14:58* | *1* |

## Client Sample ID: IPC GW MW5

**Lab Sample ID: 500-97809-5**

**Date Collected: 06/24/15 11:36**
**Matrix: Water**
**Date Received: 06/25/15 10:30**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 15:25 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 15:25 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 07/07/15 15:25 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 15:25 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 15:25 | 1 |
| **1,1-Dichloroethene** | **11** | | 5.0 | 0.31 | ug/L | | | 07/07/15 15:25 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 15:25 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 15:25 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 15:25 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 15:25 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 15:25 | 1 |
| **cis-1,2-Dichloroethene** | **28** | | 5.0 | 0.12 | ug/L | | | 07/07/15 15:25 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 15:25 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 15:25 | 1 |
| **1,1,1-Trichloroethane** | **11** | | 5.0 | 0.20 | ug/L | | | 07/07/15 15:25 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 15:25 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 15:25 | 1 |
| **Trichloroethene** | **150** | | 5.0 | 0.19 | ug/L | | | 07/07/15 15:25 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 15:25 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 15:25 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 15:25 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 15:25 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 15:25 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 15:25 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 15:25 | 1 |
| **Tetrachloroethene** | **49** | | 5.0 | 0.17 | ug/L | | | 07/07/15 15:25 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 15:25 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 15:25 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 15:25 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 15:25 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 15:25 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 15:25 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 15:25 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 15:25 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *75 - 125* | | *07/07/15 15:25* | *1* |
| *Toluene-d8 (Surr)* | *108* | | *75 - 120* | | *07/07/15 15:25* | *1* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *75 - 120* | | *07/07/15 15:25* | *1* |
| *Dibromofluoromethane* | *96* | | *75 - 120* | | *07/07/15 15:25* | *1* |

# Client Sample Results

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## Client Sample ID: IPC GW MW4

**Date Collected: 06/24/15 12:12**
**Date Received: 06/25/15 10:30**

## Lab Sample ID: 500-97809-6

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 15:52 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 15:52 | 1 |
| **Vinyl chloride** | **30** | | 2.0 | 0.10 | ug/L | | | 07/07/15 15:52 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 15:52 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 15:52 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 15:52 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 15:52 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 15:52 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 15:52 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 15:52 | 1 |
| **1,1-Dichloroethane** | **6.0** | | 5.0 | 0.19 | ug/L | | | 07/07/15 15:52 | 1 |
| **cis-1,2-Dichloroethene** | **35** | | 5.0 | 0.12 | ug/L | | | 07/07/15 15:52 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 15:52 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 15:52 | 1 |
| **1,1,1-Trichloroethane** | **5.8** | | 5.0 | 0.20 | ug/L | | | 07/07/15 15:52 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 15:52 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 15:52 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 15:52 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 15:52 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 15:52 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 15:52 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 15:52 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 15:52 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 15:52 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 15:52 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 15:52 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 15:52 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 15:52 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 15:52 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 15:52 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 15:52 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 15:52 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 15:52 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 15:52 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *75 - 125* | | *07/07/15 15:52* | *1* |
| *Toluene-d8 (Surr)* | *105* | | *75 - 120* | | *07/07/15 15:52* | *1* |
| *4-Bromofluorobenzene (Surr)* | *96* | | *75 - 120* | | *07/07/15 15:52* | *1* |
| *Dibromofluoromethane* | *95* | | *75 - 120* | | *07/07/15 15:52* | *1* |

## Client Sample ID: IPC GW MW3

**Date Collected: 06/24/15 12:45**
**Date Received: 06/25/15 10:30**

## Lab Sample ID: 500-97809-7

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 16:20 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 16:20 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 07/07/15 16:20 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 16:20 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 16:20 | 1 |
| **1,1-Dichloroethene** | **6.8** | | 5.0 | 0.31 | ug/L | | | 07/07/15 16:20 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 16:20 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 16:20 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 16:20 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 16:20 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 16:20 | 1 |
| **cis-1,2-Dichloroethene** | **21** | | 5.0 | 0.12 | ug/L | | | 07/07/15 16:20 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 16:20 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 16:20 | 1 |
| **1,1,1-Trichloroethane** | **7.4** | | 5.0 | 0.20 | ug/L | | | 07/07/15 16:20 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 16:20 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 16:20 | 1 |
| **Trichloroethene** | **170** | | 5.0 | 0.19 | ug/L | | | 07/07/15 16:20 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 16:20 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 16:20 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 16:20 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 16:20 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 16:20 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 16:20 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 16:20 | 1 |
| **Tetrachloroethene** | **41** | | 5.0 | 0.17 | ug/L | | | 07/07/15 16:20 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 16:20 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 16:20 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 16:20 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 16:20 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 16:20 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 16:20 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 16:20 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 16:20 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *75 - 125* | | *07/07/15 16:20* | *1* |
| *Toluene-d8 (Surr)* | *106* | | *75 - 120* | | *07/07/15 16:20* | *1* |
| *4-Bromofluorobenzene (Surr)* | *98* | | *75 - 120* | | *07/07/15 16:20* | *1* |
| *Dibromofluoromethane* | *93* | | *75 - 120* | | *07/07/15 16:20* | *1* |

## Client Sample ID: IPC GW MW2

**Date Collected: 06/24/15 13:15**
**Date Received: 06/25/15 10:30**

## Lab Sample ID: 500-97809-8

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 16:48 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 16:48 | 1 |
| **Vinyl chloride** | **2.2** | | 2.0 | 0.10 | ug/L | | | 07/07/15 16:48 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 16:48 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 16:48 | 1 |
| **1,1-Dichloroethene** | **6.9** | | 5.0 | 0.31 | ug/L | | | 07/07/15 16:48 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 16:48 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 16:48 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 16:48 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 16:48 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 16:48 | 1 |
| **cis-1,2-Dichloroethene** | **33** | | 5.0 | 0.12 | ug/L | | | 07/07/15 16:48 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 16:48 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 16:48 | 1 |
| **1,1,1-Trichloroethane** | **6.8** | | 5.0 | 0.20 | ug/L | | | 07/07/15 16:48 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 16:48 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 16:48 | 1 |
| **Trichloroethene** | **150** | | 5.0 | 0.19 | ug/L | | | 07/07/15 16:48 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 16:48 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 16:48 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 16:48 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 16:48 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 16:48 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 16:48 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 16:48 | 1 |
| **Tetrachloroethene** | **31** | | 5.0 | 0.17 | ug/L | | | 07/07/15 16:48 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 16:48 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 16:48 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 16:48 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 16:48 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 16:48 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 16:48 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 16:48 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 16:48 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *75 - 125* | | *07/07/15 16:48* | *1* |
| *Toluene-d8 (Surr)* | *108* | | *75 - 120* | | *07/07/15 16:48* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *75 - 120* | | *07/07/15 16:48* | *1* |
| *Dibromofluoromethane* | *93* | | *75 - 120* | | *07/07/15 16:48* | *1* |

## Client Sample ID: IPC GW MW1

**Date Collected: 06/24/15 13:55**
**Date Received: 06/25/15 10:30**

## Lab Sample ID: 500-97809-9

**Matrix: Water**

### Method: 8260B - Volatile Organic Compounds (GC/MS)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 17:15 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 17:15 | 1 |
| **Vinyl chloride** | **25** | | 2.0 | 0.10 | ug/L | | | 07/07/15 17:15 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 17:15 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 17:15 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 17:15 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 17:15 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 17:15 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 17:15 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 17:15 | 1 |
| **1,1-Dichloroethane** | **11** | | 5.0 | 0.19 | ug/L | | | 07/07/15 17:15 | 1 |
| **cis-1,2-Dichloroethene** | **86** | | 5.0 | 0.12 | ug/L | | | 07/07/15 17:15 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 17:15 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 17:15 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 17:15 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 17:15 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 17:15 | 1 |
| **Trichloroethene** | **7.0** | | 5.0 | 0.19 | ug/L | | | 07/07/15 17:15 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 17:15 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 17:15 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 17:15 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 17:15 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 17:15 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 17:15 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 17:15 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 17:15 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 17:15 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 17:15 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 17:15 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 17:15 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 17:15 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 17:15 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 17:15 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 17:15 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *75 - 125* | | *07/07/15 17:15* | *1* |
| *Toluene-d8 (Surr)* | *104* | | *75 - 120* | | *07/07/15 17:15* | *1* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *75 - 120* | | *07/07/15 17:15* | *1* |
| *Dibromofluoromethane* | *96* | | *75 - 120* | | *07/07/15 17:15* | *1* |

**Client Sample ID: IPC GW FB**
**Date Collected: 06/24/15 14:05**
**Date Received: 06/25/15 10:30**

**Lab Sample ID: 500-97809-10**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 17:43 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 17:43 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 07/07/15 17:43 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 17:43 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 17:43 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 17:43 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 17:43 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 17:43 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 17:43 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 17:43 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 17:43 | 1 |
| cis-1,2-Dichloroethene | <5.0 | | 5.0 | 0.12 | ug/L | | | 07/07/15 17:43 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 17:43 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 17:43 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 17:43 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 17:43 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 17:43 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 17:43 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 17:43 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 17:43 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 17:43 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 17:43 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 17:43 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 17:43 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 17:43 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 17:43 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 17:43 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 17:43 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 17:43 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 17:43 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 17:43 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 17:43 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 17:43 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 17:43 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *75 - 125* | | *07/07/15 17:43* | *1* |
| *Toluene-d8 (Surr)* | *106* | | *75 - 120* | | *07/07/15 17:43* | *1* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *75 - 120* | | *07/07/15 17:43* | *1* |
| *Dibromofluoromethane* | *92* | | *75 - 120* | | *07/07/15 17:43* | *1* |

**Client Sample ID: Trip Blank**
**Date Collected: 06/24/15 00:00**
**Date Received: 06/25/15 10:30**

**Lab Sample ID: 500-97809-11**
**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 18:35 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 18:35 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 07/07/15 18:35 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 18:35 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 18:35 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 18:35 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 18:35 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 18:35 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 18:35 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 18:35 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 18:35 | 1 |
| cis-1,2-Dichloroethene | <5.0 | | 5.0 | 0.12 | ug/L | | | 07/07/15 18:35 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 18:35 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 18:35 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 18:35 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 18:35 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 18:35 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 18:35 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 18:35 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 18:35 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 18:35 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 18:35 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 18:35 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 18:35 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 18:35 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 18:35 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 18:35 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 18:35 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 18:35 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 18:35 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 18:35 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 18:35 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 18:35 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 18:35 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *75 - 125* | | *07/07/15 18:35* | *1* |
| *Toluene-d8 (Surr)* | *90* | | *75 - 120* | | *07/07/15 18:35* | *1* |
| *4-Bromofluorobenzene (Surr)* | *104* | | *75 - 120* | | *07/07/15 18:35* | *1* |
| *Dibromofluoromethane* | *93* | | *75 - 120* | | *07/07/15 18:35* | *1* |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |
| RER | Relative error ratio |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |

# QC Association Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## GC/MS VOA

### Analysis Batch: 294531

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-97809-11 | Trip Blank | Total/NA | Water | 8260B | |
| LCS 500-294531/3 | Lab Control Sample | Total/NA | Water | 8260B | |
| MB 500-294531/5 | Method Blank | Total/NA | Water | 8260B | |

### Analysis Batch: 294534

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 500-97809-1 | IPC GW MW8 | Total/NA | Water | 8260B | |
| 500-97809-2 | IPC GW MW9 | Total/NA | Water | 8260B | |
| 500-97809-3 | IPC GW MW7 | Total/NA | Water | 8260B | |
| 500-97809-4 | IPC GW MW6 | Total/NA | Water | 8260B | |
| 500-97809-4 MS | IPC GW MW6 | Total/NA | Water | 8260B | |
| 500-97809-4 MSD | IPC GW MW6 | Total/NA | Water | 8260B | |
| 500-97809-5 | IPC GW MW5 | Total/NA | Water | 8260B | |
| 500-97809-6 | IPC GW MW4 | Total/NA | Water | 8260B | |
| 500-97809-7 | IPC GW MW3 | Total/NA | Water | 8260B | |
| 500-97809-8 | IPC GW MW2 | Total/NA | Water | 8260B | |
| 500-97809-9 | IPC GW MW1 | Total/NA | Water | 8260B | |
| 500-97809-10 | IPC GW FB | Total/NA | Water | 8260B | |
| LCS 500-294534/3 | Lab Control Sample | Total/NA | Water | 8260B | |
| MB 500-294534/5 | Method Blank | Total/NA | Water | 8260B | |

# Surrogate Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Matrix: Water**

**Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | |
|---|---|---|---|---|---|
| Lab Sample ID | Client Sample ID | 12DCE (75-125) | TOL (75-120) | BFB (75-120) | DBFM (75-120) |
| 500-97809-1 | IPC GW MW8 | 94 | 106 | 96 | 93 |
| 500-97809-2 | IPC GW MW9 | 97 | 105 | 98 | 91 |
| 500-97809-3 | IPC GW MW7 | 93 | 104 | 95 | 94 |
| 500-97809-4 | IPC GW MW6 | 92 | 104 | 96 | 96 |
| 500-97809-4 MS | IPC GW MW6 | 93 | 106 | 95 | 98 |
| 500-97809-4 MSD | IPC GW MW6 | 97 | 107 | 99 | 99 |
| 500-97809-5 | IPC GW MW5 | 96 | 108 | 97 | 96 |
| 500-97809-6 | IPC GW MW4 | 96 | 105 | 96 | 95 |
| 500-97809-7 | IPC GW MW3 | 94 | 106 | 98 | 93 |
| 500-97809-8 | IPC GW MW2 | 94 | 108 | 99 | 93 |
| 500-97809-9 | IPC GW MW1 | 96 | 104 | 95 | 96 |
| 500-97809-10 | IPC GW FB | 94 | 106 | 95 | 92 |
| 500-97809-11 | Trip Blank | 97 | 90 | 104 | 93 |
| LCS 500-294531/3 | Lab Control Sample | 97 | 96 | 97 | 92 |
| LCS 500-294534/3 | Lab Control Sample | 95 | 106 | 94 | 98 |
| MB 500-294531/5 | Method Blank | 96 | 93 | 103 | 94 |
| MB 500-294534/5 | Method Blank | 94 | 106 | 99 | 94 |

**Surrogate Legend**

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 500-294531/5**
**Matrix: Water**
**Analysis Batch: 294531**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 11:26 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 11:26 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 07/07/15 11:26 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 11:26 | 1 |
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 11:26 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 11:26 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 11:26 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 11:26 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 11:26 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 11:26 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 11:26 | 1 |
| cis-1,2-Dichloroethene | <5.0 | | 5.0 | 0.12 | ug/L | | | 07/07/15 11:26 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 11:26 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 11:26 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 11:26 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 11:26 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 11:26 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 11:26 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 11:26 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 11:26 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 11:26 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 11:26 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 11:26 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 11:26 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 11:26 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 11:26 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 11:26 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 11:26 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 11:26 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 11:26 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 11:26 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 11:26 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 11:26 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 11:26 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *96* | | *75 - 125* | | *07/07/15 11:26* | *1* |
| *Toluene-d8 (Surr)* | *93* | | *75 - 120* | | *07/07/15 11:26* | *1* |
| *4-Bromofluorobenzene (Surr)* | *103* | | *75 - 120* | | *07/07/15 11:26* | *1* |
| *Dibromofluoromethane* | *94* | | *75 - 120* | | *07/07/15 11:26* | *1* |

**Lab Sample ID: LCS 500-294531/3**
**Matrix: Water**
**Analysis Batch: 294531**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 48.4 | | ug/L | | 97 | 70 - 120 |
| Chloromethane | 50.0 | 43.6 | | ug/L | | 87 | 45 - 140 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 500-294531/3**
**Matrix: Water**
**Analysis Batch: 294531**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Vinyl chloride | 50.0 | 43.7 | | ug/L | | 87 | 63 - 127 |
| Bromomethane | 50.0 | 42.8 | | ug/L | | 86 | 30 - 170 |
| Chloroethane | 50.0 | 45.8 | | ug/L | | 92 | 40 - 150 |
| 1,1-Dichloroethene | 50.0 | 45.7 | | ug/L | | 91 | 68 - 121 |
| Carbon disulfide | 50.0 | 43.9 | | ug/L | | 88 | 61 - 120 |
| Acetone | 50.0 | 41.7 | | ug/L | | 83 | 47 - 131 |
| Methylene Chloride | 50.0 | 42.6 | | ug/L | | 85 | 70 - 120 |
| trans-1,2-Dichloroethene | 50.0 | 48.0 | | ug/L | | 96 | 70 - 120 |
| 1,1-Dichloroethane | 50.0 | 49.6 | | ug/L | | 99 | 70 - 127 |
| cis-1,2-Dichloroethene | 50.0 | 49.4 | | ug/L | | 99 | 70 - 120 |
| Methyl Ethyl Ketone | 50.0 | 43.4 | | ug/L | | 87 | 51 - 134 |
| Chloroform | 50.0 | 49.6 | | ug/L | | 99 | 70 - 120 |
| 1,1,1-Trichloroethane | 50.0 | 49.3 | | ug/L | | 99 | 70 - 125 |
| Carbon tetrachloride | 50.0 | 49.3 | | ug/L | | 99 | 70 - 136 |
| 1,2-Dichloroethane | 50.0 | 50.6 | | ug/L | | 101 | 66 - 132 |
| Trichloroethene | 50.0 | 51.4 | | ug/L | | 103 | 70 - 122 |
| 1,2-Dichloropropane | 50.0 | 50.9 | | ug/L | | 102 | 70 - 127 |
| Bromodichloromethane | 50.0 | 51.5 | | ug/L | | 103 | 70 - 127 |
| cis-1,3-Dichloropropene | 50.0 | 53.3 | | ug/L | | 107 | 70 - 122 |
| methyl isobutyl ketone | 50.0 | 44.1 | | ug/L | | 88 | 53 - 135 |
| Toluene | 50.0 | 49.9 | | ug/L | | 100 | 70 - 120 |
| trans-1,3-Dichloropropene | 50.0 | 54.7 | | ug/L | | 109 | 70 - 123 |
| 1,1,2-Trichloroethane | 50.0 | 52.8 | | ug/L | | 106 | 70 - 125 |
| Tetrachloroethene | 50.0 | 51.1 | | ug/L | | 102 | 70 - 129 |
| 2-Hexanone | 50.0 | 48.3 | | ug/L | | 97 | 53 - 140 |
| Dibromochloromethane | 50.0 | 52.4 | | ug/L | | 105 | 70 - 120 |
| Chlorobenzene | 50.0 | 51.1 | | ug/L | | 102 | 70 - 120 |
| Ethylbenzene | 50.0 | 50.8 | | ug/L | | 102 | 70 - 125 |
| Styrene | 50.0 | 51.5 | | ug/L | | 103 | 70 - 120 |
| Bromoform | 50.0 | 54.6 | | ug/L | | 109 | 70 - 135 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 55.7 | | ug/L | | 111 | 68 - 133 |
| Xylenes, Total | 100 | 101 | | ug/L | | 101 | 70 - 120 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *75 - 125* |
| *Toluene-d8 (Surr)* | *96* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *97* | | *75 - 120* |
| *Dibromofluoromethane* | *92* | | *75 - 120* |

**Lab Sample ID: MB 500-294534/5**
**Matrix: Water**
**Analysis Batch: 294534**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 5.0 | 0.074 | ug/L | | | 07/07/15 11:45 | 1 |
| Chloromethane | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 11:45 | 1 |
| Vinyl chloride | <2.0 | | 2.0 | 0.10 | ug/L | | | 07/07/15 11:45 | 1 |
| Bromomethane | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 11:45 | 1 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 500-294534/5**
**Matrix: Water**
**Analysis Batch: 294534**

**Client Sample ID: Method Blank**
**Prep Type: Total/NA**

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroethane | <5.0 | | 5.0 | 0.34 | ug/L | | | 07/07/15 11:45 | 1 |
| 1,1-Dichloroethene | <5.0 | | 5.0 | 0.31 | ug/L | | | 07/07/15 11:45 | 1 |
| Carbon disulfide | <5.0 | | 5.0 | 0.43 | ug/L | | | 07/07/15 11:45 | 1 |
| Acetone | <20 | | 20 | 1.3 | ug/L | | | 07/07/15 11:45 | 1 |
| Methylene Chloride | <10 | | 10 | 0.68 | ug/L | | | 07/07/15 11:45 | 1 |
| trans-1,2-Dichloroethene | <5.0 | | 5.0 | 0.25 | ug/L | | | 07/07/15 11:45 | 1 |
| 1,1-Dichloroethane | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 11:45 | 1 |
| cis-1,2-Dichloroethene | <5.0 | | 5.0 | 0.12 | ug/L | | | 07/07/15 11:45 | 1 |
| Methyl Ethyl Ketone | <20 | | 20 | 1.5 | ug/L | | | 07/07/15 11:45 | 1 |
| Chloroform | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 11:45 | 1 |
| 1,1,1-Trichloroethane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 11:45 | 1 |
| Carbon tetrachloride | <5.0 | | 5.0 | 0.26 | ug/L | | | 07/07/15 11:45 | 1 |
| 1,2-Dichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 11:45 | 1 |
| Trichloroethene | <5.0 | | 5.0 | 0.19 | ug/L | | | 07/07/15 11:45 | 1 |
| 1,2-Dichloropropane | <5.0 | | 5.0 | 0.20 | ug/L | | | 07/07/15 11:45 | 1 |
| Bromodichloromethane | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 11:45 | 1 |
| cis-1,3-Dichloropropene | <5.0 | | 5.0 | 0.18 | ug/L | | | 07/07/15 11:45 | 1 |
| methyl isobutyl ketone | <20 | | 20 | 0.33 | ug/L | | | 07/07/15 11:45 | 1 |
| Toluene | <5.0 | | 5.0 | 0.11 | ug/L | | | 07/07/15 11:45 | 1 |
| trans-1,3-Dichloropropene | <5.0 | | 5.0 | 0.21 | ug/L | | | 07/07/15 11:45 | 1 |
| 1,1,2-Trichloroethane | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 11:45 | 1 |
| Tetrachloroethene | <5.0 | | 5.0 | 0.17 | ug/L | | | 07/07/15 11:45 | 1 |
| 2-Hexanone | <20 | | 20 | 0.56 | ug/L | | | 07/07/15 11:45 | 1 |
| Dibromochloromethane | <5.0 | | 5.0 | 0.32 | ug/L | | | 07/07/15 11:45 | 1 |
| Chlorobenzene | <5.0 | | 5.0 | 0.14 | ug/L | | | 07/07/15 11:45 | 1 |
| Ethylbenzene | <5.0 | | 5.0 | 0.13 | ug/L | | | 07/07/15 11:45 | 1 |
| Styrene | <5.0 | | 5.0 | 0.10 | ug/L | | | 07/07/15 11:45 | 1 |
| Bromoform | <5.0 | | 5.0 | 0.28 | ug/L | | | 07/07/15 11:45 | 1 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 5.0 | 0.23 | ug/L | | | 07/07/15 11:45 | 1 |
| Xylenes, Total | <5.0 | | 5.0 | 0.068 | ug/L | | | 07/07/15 11:45 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *94* | | *75 - 125* | | *07/07/15 11:45* | *1* |
| *Toluene-d8 (Surr)* | *106* | | *75 - 120* | | *07/07/15 11:45* | *1* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *75 - 120* | | *07/07/15 11:45* | *1* |
| *Dibromofluoromethane* | *94* | | *75 - 120* | | *07/07/15 11:45* | *1* |

**Lab Sample ID: LCS 500-294534/3**
**Matrix: Water**
**Analysis Batch: 294534**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzene | 50.0 | 47.0 | | ug/L | | 94 | 70 - 120 |
| Chloromethane | 50.0 | 44.8 | | ug/L | | 90 | 45 - 140 |
| Vinyl chloride | 50.0 | 51.8 | | ug/L | | 104 | 63 - 127 |
| Bromomethane | 50.0 | 44.3 | | ug/L | | 89 | 30 - 170 |
| Chloroethane | 50.0 | 47.5 | | ug/L | | 95 | 40 - 150 |
| 1,1-Dichloroethene | 50.0 | 44.5 | | ug/L | | 89 | 68 - 121 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 500-294534/3**
**Matrix: Water**
**Analysis Batch: 294534**

**Client Sample ID: Lab Control Sample**
**Prep Type: Total/NA**

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Carbon disulfide | 50.0 | 44.7 | | ug/L | | 89 | 61 - 120 |
| Acetone | 50.0 | 37.3 | | ug/L | | 75 | 47 - 131 |
| Methylene Chloride | 50.0 | 45.1 | | ug/L | | 90 | 70 - 120 |
| trans-1,2-Dichloroethene | 50.0 | 46.1 | | ug/L | | 92 | 70 - 120 |
| 1,1-Dichloroethane | 50.0 | 45.8 | | ug/L | | 92 | 70 - 127 |
| cis-1,2-Dichloroethene | 50.0 | 45.2 | | ug/L | | 90 | 70 - 120 |
| Methyl Ethyl Ketone | 50.0 | 37.8 | | ug/L | | 76 | 51 - 134 |
| Chloroform | 50.0 | 46.4 | | ug/L | | 93 | 70 - 120 |
| 1,1,1-Trichloroethane | 50.0 | 46.5 | | ug/L | | 93 | 70 - 125 |
| Carbon tetrachloride | 50.0 | 49.5 | | ug/L | | 99 | 70 - 136 |
| 1,2-Dichloroethane | 50.0 | 47.3 | | ug/L | | 95 | 66 - 132 |
| Trichloroethene | 50.0 | 48.3 | | ug/L | | 97 | 70 - 122 |
| 1,2-Dichloropropane | 50.0 | 47.1 | | ug/L | | 94 | 70 - 127 |
| Bromodichloromethane | 50.0 | 45.3 | | ug/L | | 91 | 70 - 127 |
| cis-1,3-Dichloropropene | 50.0 | 47.0 | | ug/L | | 94 | 70 - 122 |
| methyl isobutyl ketone | 50.0 | 37.1 | | ug/L | | 74 | 53 - 135 |
| Toluene | 50.0 | 46.0 | | ug/L | | 92 | 70 - 120 |
| trans-1,3-Dichloropropene | 50.0 | 45.0 | | ug/L | | 90 | 70 - 123 |
| 1,1,2-Trichloroethane | 50.0 | 46.7 | | ug/L | | 93 | 70 - 125 |
| Tetrachloroethene | 50.0 | 49.3 | | ug/L | | 99 | 70 - 129 |
| 2-Hexanone | 50.0 | 36.5 | | ug/L | | 73 | 53 - 140 |
| Dibromochloromethane | 50.0 | 46.3 | | ug/L | | 93 | 70 - 120 |
| Chlorobenzene | 50.0 | 47.1 | | ug/L | | 94 | 70 - 120 |
| Ethylbenzene | 50.0 | 49.1 | | ug/L | | 98 | 70 - 125 |
| Styrene | 50.0 | 47.5 | | ug/L | | 95 | 70 - 120 |
| Bromoform | 50.0 | 40.4 | | ug/L | | 81 | 70 - 135 |
| 1,1,2,2-Tetrachloroethane | 50.0 | 44.9 | | ug/L | | 90 | 68 - 133 |
| Xylenes, Total | 100 | 94.8 | | ug/L | | 95 | 70 - 120 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *95* | | *75 - 125* |
| *Toluene-d8 (Surr)* | *106* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *94* | | *75 - 120* |
| *Dibromofluoromethane* | *98* | | *75 - 120* |

**Lab Sample ID: 500-97809-4 MS**
**Matrix: Water**
**Analysis Batch: 294534**

**Client Sample ID: IPC GW MW6**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 50.0 | 46.8 | | ug/L | | 94 | 70 - 120 |
| Chloromethane | <5.0 | | 50.0 | 44.0 | | ug/L | | 88 | 45 - 140 |
| Vinyl chloride | 24 | | 50.0 | 73.1 | | ug/L | | 98 | 63 - 127 |
| Bromomethane | <5.0 | | 50.0 | 42.1 | | ug/L | | 84 | 30 - 170 |
| Chloroethane | <5.0 | | 50.0 | 48.1 | | ug/L | | 96 | 40 - 150 |
| 1,1-Dichloroethene | <5.0 | | 50.0 | 48.6 | | ug/L | | 88 | 68 - 121 |
| Carbon disulfide | <5.0 | | 50.0 | 43.3 | | ug/L | | 87 | 61 - 120 |
| Acetone | <20 | | 50.0 | 31.7 | | ug/L | | 63 | 47 - 131 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 500-97809-4 MS**
**Matrix: Water**
**Analysis Batch: 294534**

**Client Sample ID: IPC GW MW6**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | <10 | | 50.0 | 45.6 | | ug/L | | 91 | 70 - 120 |
| trans-1,2-Dichloroethene | <5.0 | | 50.0 | 46.2 | | ug/L | | 89 | 70 - 120 |
| 1,1-Dichloroethane | 5.6 | | 50.0 | 51.3 | | ug/L | | 91 | 70 - 127 |
| cis-1,2-Dichloroethene | 54 | | 50.0 | 96.2 | | ug/L | | 84 | 70 - 120 |
| Methyl Ethyl Ketone | <20 | | 50.0 | 34.5 | | ug/L | | 69 | 51 - 134 |
| Chloroform | <5.0 | | 50.0 | 47.4 | | ug/L | | 95 | 70 - 120 |
| 1,1,1-Trichloroethane | 8.1 | | 50.0 | 53.9 | | ug/L | | 92 | 70 - 125 |
| Carbon tetrachloride | <5.0 | | 50.0 | 47.5 | | ug/L | | 95 | 70 - 136 |
| 1,2-Dichloroethane | <5.0 | | 50.0 | 46.4 | | ug/L | | 93 | 66 - 132 |
| Trichloroethene | 48 | | 50.0 | 90.3 | | ug/L | | 85 | 70 - 122 |
| 1,2-Dichloropropane | <5.0 | | 50.0 | 45.9 | | ug/L | | 92 | 70 - 127 |
| Bromodichloromethane | <5.0 | | 50.0 | 44.8 | | ug/L | | 90 | 70 - 127 |
| cis-1,3-Dichloropropene | <5.0 | | 50.0 | 45.9 | | ug/L | | 92 | 70 - 122 |
| methyl isobutyl ketone | <20 | | 50.0 | 35.6 | | ug/L | | 71 | 53 - 135 |
| Toluene | <5.0 | | 50.0 | 46.2 | | ug/L | | 92 | 70 - 120 |
| trans-1,3-Dichloropropene | <5.0 | | 50.0 | 44.0 | | ug/L | | 88 | 70 - 123 |
| 1,1,2-Trichloroethane | <5.0 | | 50.0 | 46.2 | | ug/L | | 92 | 70 - 125 |
| Tetrachloroethene | 17 | | 50.0 | 65.3 | | ug/L | | 96 | 70 - 129 |
| 2-Hexanone | <20 | | 50.0 | 35.5 | | ug/L | | 71 | 53 - 140 |
| Dibromochloromethane | <5.0 | | 50.0 | 45.9 | | ug/L | | 92 | 70 - 120 |
| Chlorobenzene | <5.0 | | 50.0 | 47.5 | | ug/L | | 95 | 70 - 120 |
| Ethylbenzene | <5.0 | | 50.0 | 48.6 | | ug/L | | 97 | 70 - 125 |
| Styrene | <5.0 | | 50.0 | 47.3 | | ug/L | | 95 | 70 - 120 |
| Bromoform | <5.0 | | 50.0 | 40.7 | | ug/L | | 81 | 70 - 135 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 50.0 | 46.0 | | ug/L | | 92 | 68 - 133 |
| Xylenes, Total | <5.0 | | 100 | 93.3 | | ug/L | | 93 | 70 - 120 |

| *Surrogate* | *MS %Recovery* | *MS Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *93* | | *75 - 125* |
| *Toluene-d8 (Surr)* | *106* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *95* | | *75 - 120* |
| *Dibromofluoromethane* | *98* | | *75 - 120* |

**Lab Sample ID: 500-97809-4 MSD**
**Matrix: Water**
**Analysis Batch: 294534**

**Client Sample ID: IPC GW MW6**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <5.0 | | 50.0 | 51.8 | | ug/L | | 104 | 70 - 120 | 10 | 20 |
| Chloromethane | <5.0 | | 50.0 | 49.1 | | ug/L | | 98 | 45 - 140 | 11 | 20 |
| Vinyl chloride | 24 | | 50.0 | 80.9 | | ug/L | | 114 | 63 - 127 | 10 | 20 |
| Bromomethane | <5.0 | | 50.0 | 48.2 | | ug/L | | 96 | 30 - 170 | 14 | 20 |
| Chloroethane | <5.0 | | 50.0 | 42.7 | | ug/L | | 85 | 40 - 150 | 12 | 20 |
| 1,1-Dichloroethene | <5.0 | | 50.0 | 53.3 | | ug/L | | 97 | 68 - 121 | 9 | 20 |
| Carbon disulfide | <5.0 | | 50.0 | 47.8 | | ug/L | | 96 | 61 - 120 | 10 | 20 |
| Acetone | <20 | | 50.0 | 37.5 | | ug/L | | 75 | 47 - 131 | 17 | 20 |
| Methylene Chloride | <10 | | 50.0 | 50.1 | | ug/L | | 100 | 70 - 120 | 9 | 20 |
| trans-1,2-Dichloroethene | <5.0 | | 50.0 | 50.7 | | ug/L | | 99 | 70 - 120 | 9 | 20 |

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 500-97809-4 MSD**
**Matrix: Water**
**Analysis Batch: 294534**

**Client Sample ID: IPC GW MW6**
**Prep Type: Total/NA**

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | 5.6 | | 50.0 | 55.4 | | ug/L | | 100 | 70 - 127 | 8 | 20 |
| cis-1,2-Dichloroethene | 54 | | 50.0 | 103 | | ug/L | | 97 | 70 - 120 | 7 | 20 |
| Methyl Ethyl Ketone | <20 | | 50.0 | 39.1 | | ug/L | | 78 | 51 - 134 | 13 | 20 |
| Chloroform | <5.0 | | 50.0 | 52.1 | | ug/L | | 104 | 70 - 120 | 10 | 20 |
| 1,1,1-Trichloroethane | 8.1 | | 50.0 | 59.7 | | ug/L | | 103 | 70 - 125 | 10 | 20 |
| Carbon tetrachloride | <5.0 | | 50.0 | 52.7 | | ug/L | | 105 | 70 - 136 | 10 | 20 |
| 1,2-Dichloroethane | <5.0 | | 50.0 | 50.8 | | ug/L | | 102 | 66 - 132 | 9 | 20 |
| Trichloroethene | 48 | | 50.0 | 98.0 | | ug/L | | 101 | 70 - 122 | 8 | 20 |
| 1,2-Dichloropropane | <5.0 | | 50.0 | 51.3 | | ug/L | | 103 | 70 - 127 | 11 | 20 |
| Bromodichloromethane | <5.0 | | 50.0 | 49.9 | | ug/L | | 100 | 70 - 127 | 11 | 20 |
| cis-1,3-Dichloropropene | <5.0 | | 50.0 | 51.5 | | ug/L | | 103 | 70 - 122 | 12 | 20 |
| methyl isobutyl ketone | <20 | | 50.0 | 39.2 | | ug/L | | 78 | 53 - 135 | 10 | 20 |
| Toluene | <5.0 | | 50.0 | 50.5 | | ug/L | | 101 | 70 - 120 | 9 | 20 |
| trans-1,3-Dichloropropene | <5.0 | | 50.0 | 49.5 | | ug/L | | 99 | 70 - 123 | 12 | 20 |
| 1,1,2-Trichloroethane | <5.0 | | 50.0 | 53.3 | | ug/L | | 107 | 70 - 125 | 14 | 20 |
| Tetrachloroethene | 17 | | 50.0 | 68.9 | | ug/L | | 103 | 70 - 129 | 5 | 20 |
| 2-Hexanone | <20 | | 50.0 | 39.4 | | ug/L | | 79 | 53 - 140 | 11 | 20 |
| Dibromochloromethane | <5.0 | | 50.0 | 51.8 | | ug/L | | 104 | 70 - 120 | 12 | 20 |
| Chlorobenzene | <5.0 | | 50.0 | 52.3 | | ug/L | | 105 | 70 - 120 | 10 | 20 |
| Ethylbenzene | <5.0 | | 50.0 | 53.3 | | ug/L | | 107 | 70 - 125 | 9 | 20 |
| Styrene | <5.0 | | 50.0 | 52.2 | | ug/L | | 104 | 70 - 120 | 10 | 20 |
| Bromoform | <5.0 | | 50.0 | 45.9 | | ug/L | | 92 | 70 - 135 | 12 | 20 |
| 1,1,2,2-Tetrachloroethane | <5.0 | | 50.0 | 55.1 | | ug/L | | 110 | 68 - 133 | 18 | 20 |
| Xylenes, Total | <5.0 | | 100 | 103 | | ug/L | | 103 | 70 - 120 | 10 | 20 |

| *Surrogate* | *MSD %Recovery* | *MSD Qualifier* | *Limits* |
|---|---|---|---|
| *1,2-Dichloroethane-d4 (Surr)* | *97* | | *75 - 125* |
| *Toluene-d8 (Surr)* | *107* | | *75 - 120* |
| *4-Bromofluorobenzene (Surr)* | *99* | | *75 - 120* |
| *Dibromofluoromethane* | *99* | | *75 - 120* |

# Lab Chronicle

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## Client Sample ID: IPC GW MW8

**Lab Sample ID: 500-97809-1**

**Date Collected: 06/24/15 08:40**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294534 | 07/07/15 13:35 | EMA | TAL CHI |

## Client Sample ID: IPC GW MW9

**Lab Sample ID: 500-97809-2**

**Date Collected: 06/24/15 08:54**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294534 | 07/07/15 14:02 | EMA | TAL CHI |

## Client Sample ID: IPC GW MW7

**Lab Sample ID: 500-97809-3**

**Date Collected: 06/24/15 09:10**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294534 | 07/07/15 14:30 | EMA | TAL CHI |

## Client Sample ID: IPC GW MW6

**Lab Sample ID: 500-97809-4**

**Date Collected: 06/24/15 10:54**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294534 | 07/07/15 14:58 | EMA | TAL CHI |

## Client Sample ID: IPC GW MW5

**Lab Sample ID: 500-97809-5**

**Date Collected: 06/24/15 11:36**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294534 | 07/07/15 15:25 | EMA | TAL CHI |

## Client Sample ID: IPC GW MW4

**Lab Sample ID: 500-97809-6**

**Date Collected: 06/24/15 12:12**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294534 | 07/07/15 15:52 | EMA | TAL CHI |

# Lab Chronicle

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## Client Sample ID: IPC GW MW3

**Lab Sample ID: 500-97809-7**

**Date Collected: 06/24/15 12:45**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294534 | 07/07/15 16:20 | EMA | TAL CHI |

## Client Sample ID: IPC GW MW2

**Lab Sample ID: 500-97809-8**

**Date Collected: 06/24/15 13:15**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294534 | 07/07/15 16:48 | EMA | TAL CHI |

## Client Sample ID: IPC GW MW1

**Lab Sample ID: 500-97809-9**

**Date Collected: 06/24/15 13:55**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294534 | 07/07/15 17:15 | EMA | TAL CHI |

## Client Sample ID: IPC GW FB

**Lab Sample ID: 500-97809-10**

**Date Collected: 06/24/15 14:05**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294534 | 07/07/15 17:43 | EMA | TAL CHI |

## Client Sample ID: Trip Blank

**Lab Sample ID: 500-97809-11**

**Date Collected: 06/24/15 00:00**
**Date Received: 06/25/15 10:30**

**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | 8260B | | 1 | 294531 | 07/07/15 18:35 | PMF | TAL CHI |

**Laboratory References:**

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

# Certification Summary

Client: Environmental Information Logistics (EIL
Project/Site: Interstate Pollution Control Site

TestAmerica Job ID: 500-97809-1

## Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| Illinois | NELAP | 5 | 100201 | 04-30-16 |

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact:
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

## Chain of Custody Record

Lab Job #: 500 - 97809
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 14

Client: EIL/IPC | Client Project #:
Project Name: IPC
Project Location/State: Rockford IL | Lab Project #: 50001225
Sampler: Brians McQueen | Lab PM: Richard Wright

Preservative Key

500-97809 COC

| Lab ID | MS/MSD | Sample ID | Sampling Date | Sampling Time | # of Containers | Matrix | VOC | Comments |
|---|---|---|---|---|---|---|---|---|
| 1 | | IPCGW MW8 | 6/24/15 | 840 | 3 | W | X | |
| 2 | | IPCGW MW9 | | 854 | | | | |
| 3 | | IPCGW MW7 | | 910 | | | | |
| 4 | X | IPCGW MW6 | | 1054 | 9 | | | |
| 5 | | IPCGW MW5 | | 1136 | 3 | | | |
| 6 | | IPCGW MW4 | | 1212 | | | | |
| 7 | | IPCGW MW3 | | 1245 | | | | |
| 8 | | IPCGW MW2 | | 1315 | | | | |
| 9 | | IPCGW MW1 | | 1355 | | | | |
| 10 | | IPCGWBFB | | 1405 | | | | |

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
|---|---|---|---|---|---|---|---|
| | Cabins | 6/24/15 | 1445 | | TAL | 06/25/15 | 1030 |
| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |
| Relinquished By | Company | Date | Time | Received By | Company | Date | Time |

Lab Courier
Shipped
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

# Login Sample Receipt Checklist

Client: Environmental Information Logistics (EIL

Job Number: 500-97809-1

**Login Number: 97809**
**List Number: 1**
**Creator: Kelsey, Shawn M**

**List Source: TestAmerica Chicago**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | True | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 1.4c |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | True | |

**Attachment 4**

**Data Summary Table**

December 2014 Through June 2015
Data Summary
IPC/Roto-Rooter Site

| Well | Location | Parameter ID | Parameter | Units | Interwell Upper Limit (95%) | Intrawell Upper Limit (99%) | Dec-14 | | Jun-15 | | Reporting Period Exceedance? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Result | Qual | Result | Qual | |
| MW1 | Downgradient | 190494 | 1,1,1-Trichloroethane | ug/L | 52.5 | 25.1 | 5 | U | 5 | U | No |
| MW1 | Downgradient | 190504 | 1,1-Dichloroethane | ug/L | 14 | 24.0 | 13 | | 11 | | No |
| MW1 | Downgradient | 190499 | 1,1-Dichloroethene | ug/L | 32.9 | 21.1 | 6.8 | | 5 | U | No |
| MW1 | Downgradient | 147907 | cis-1,2-Dichloroethene | ug/L | 250 | 295 | 130 | | 86 | | No |
| MW1 | Downgradient | 190525 | Tetrachloroethene | ug/L | 45.8 | 5.6 | 5 | U | 5 | U | No |
| MW1 | Downgradient | 185820 | Trichloroethene | ug/L | 340 | 324 | 12 | | 7 | | No |
| MW1 | Downgradient | 185825 | Vinyl Chloride | ug/L | 48 | 10.4 | 18 | | 25 | | No |
| MW2 | Downgradient | 190494 | 1,1,1-Trichloroethane | ug/L | 52.5 | 39.3 | 9 | | 6.8 | | No |
| MW2 | Downgradient | 190504 | 1,1-Dichloroethane | ug/L | 14 | 5.4 | 5 | U | 5 | U | No |
| MW2 | Downgradient | 190499 | 1,1-Dichloroethene | ug/L | 32.9 | 30.6 | 9.5 | | 6.9 | | No |
| MW2 | Downgradient | 147907 | cis-1,2-Dichloroethene | ug/L | 250 | 131 | 32 | | 33 | | No |
| MW2 | Downgradient | 190525 | Tetrachloroethene | ug/L | 45.8 | 23.1 | 32 | | 31 | | No |
| MW2 | Downgradient | 185820 | Trichloroethene | ug/L | 340 | 293 | 160 | | 150 | | No |
| MW2 | Downgradient | 185825 | Vinyl Chloride | ug/L | 48 | 10.0 | 3.2 | | 2.2 | | No |
| MW3 | Upgradient | 190494 | 1,1,1-Trichloroethane | ug/L | 52.5 | 45.5 | 10 | | 7.4 | | No |
| MW3 | Upgradient | 190504 | 1,1-Dichloroethane | ug/L | 14 | 11.0 | 5 | U | 5 | U | No |
| MW3 | Upgradient | 190499 | 1,1-Dichloroethene | ug/L | 32.9 | 36.3 | 9.4 | | 6.8 | | No |
| MW3 | Upgradient | 147907 | cis-1,2-Dichloroethene | ug/L | 250 | 126 | 22 | | 21 | | No |
| MW3 | Upgradient | 190525 | Tetrachloroethene | ug/L | 45.8 | **39.7** | **42** | | **41** | | **Yes** |
| MW3 | Upgradient | 185820 | Trichloroethene | ug/L | 340 | 310 | 200 | | 170 | | No |
| MW3 | Upgradient | 185825 | Vinyl Chloride | ug/L | 48 | 2.0 | 2 | U | 2 | U | No |
| MW4 | Downgradient | 190494 | 1,1,1-Trichloroethane | ug/L | 52.5 | 47.2 | 7.9 | | 5.8 | | No |
| MW4 | Downgradient | 190504 | 1,1-Dichloroethane | ug/L | 14 | 69.9 | 7 | | 6 | | No |
| MW4 | Downgradient | 190499 | 1,1-Dichloroethene | ug/L | 32.9 | 33.0 | 5 | U | 5 | U | No |
| MW4 | Downgradient | 147907 | cis-1,2-Dichloroethene | ug/L | 250 | 461 | 49 | | 35 | | No |
| MW4 | Downgradient | 190525 | Tetrachloroethene | ug/L | 45.8 | 5.0 | 5 | U | 5 | U | No |
| MW4 | Downgradient | 185820 | Trichloroethene | ug/L | 340 | 5.0 | 5 | U | 5 | U | No |
| MW4 | Downgradient | 185825 | Vinyl Chloride | ug/L | 48 | 137 | 35 | | 30 | | No |
| MW5 | Upgradient | 190494 | 1,1,1-Trichloroethane | ug/L | 52.5 | 78.5 | 12 | | 11 | | No |
| MW5 | Upgradient | 190504 | 1,1-Dichloroethane | ug/L | 14 | 25.8 | 5.3 | | 5 | U | No |
| MW5 | Upgradient | 190499 | 1,1-Dichloroethene | ug/L | 32.9 | 34.0 | 13 | | 11 | | No |
| MW5 | Upgradient | 147907 | cis-1,2-Dichloroethene | ug/L | 250 | 519 | 27 | | 28 | | No |
| MW5 | Upgradient | 190525 | Tetrachloroethene | ug/L | 45.8 | 75.7 | 43 | | 49 | | No |
| MW5 | Upgradient | 185820 | Trichloroethene | ug/L | 340 | 390 | 130 | | 150 | | No |
| MW5 | Upgradient | 185825 | Vinyl Chloride | ug/L | 48 | 15.0 | 2 | U | 2 | U | No |

**REVISED LIMITS**

December 2014 Through June 2015
Data Summary
IPC/Roto-Rooter Site

| Well | Location | Parameter ID | Parameter | Units | Interwell Upper Limit (95%) | Intrawell Upper Limit (99%) | Dec-14 | | Jun-15 | | Reporting Period Exceedance? |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Result | Qual | Result | Qual | |
| MW6 | Upgradient | 190494 | 1,1,1-Trichloroethane | ug/L | 52.5 | 71.3 | 11 | | 8.1 | | No |
| MW6 | Upgradient | 190504 | 1,1-Dichloroethane | ug/L | 14 | 42.1 | 7.7 | | 5.6 | | No |
| MW6 | Upgradient | 190499 | 1,1-Dichloroethene | ug/L | 32.9 | 36.5 | 7 | | 5 | U | No |
| MW6 | Upgradient | 147907 | cis-1,2-Dichloroethene | ug/L | 250 | 352 | 62 | | 54 | | No |
| MW6 | Upgradient | 190525 | Tetrachloroethene | ug/L | 45.8 | 47.6 | 27 | | 17 | | No |
| MW6 | Upgradient | 185820 | Trichloroethene | ug/L | 340 | 220 | 70 | | 48 | | No |
| MW6 | Upgradient | 185825 | Vinyl Chloride | ug/L | 48 | 104 | 19 | | 24 | | No |
| MW8 | Downgradient | 190494 | 1,1,1-Trichloroethane | ug/L | 52.5 | 30.2 | 5 | U | 5 | U | No |
| MW8 | Downgradient | 190504 | 1,1-Dichloroethane | ug/L | 14 | 34.0 | 11 | | 5.4 | | No |
| MW8 | Downgradient | 190499 | 1,1-Dichloroethene | ug/L | 32.9 | 14.1 | 5 | U | 5 | U | No |
| MW8 | Downgradient | 147907 | cis-1,2-Dichloroethene | ug/L | 250 | 78.2 | 14 | | 9.3 | | No |
| MW8 | Downgradient | 190525 | Tetrachloroethene | ug/L | 45.8 | 5.0 | 5.1 | | 6 | | No |
| MW8 | Downgradient | 185820 | Trichloroethene | ug/L | 340 | 171 | 30 | | 29 | | No |
| MW8 | Downgradient | 185825 | Vinyl Chloride | ug/L | 48 | 2.0 | 2 | U | 2 | U | No |
| MW9 | Downgradient | 190494 | 1,1,1-Trichloroethane | ug/L | 52.5 | 5.0 | 5 | U | 5 | U | No |
| MW9 | Downgradient | 190504 | 1,1-Dichloroethane | ug/L | 14 | 5.0 | 5 | U | 5 | U | No |
| MW9 | Downgradient | 190499 | 1,1-Dichloroethene | ug/L | 32.9 | 5.0 | 5 | U | 5 | U | No |
| MW9 | Downgradient | 147907 | cis-1,2-Dichloroethene | ug/L | 250 | 5.0 | 5 | U | 7 | | No |
| MW9 | Downgradient | 190525 | Tetrachloroethene | ug/L | 45.8 | 5.0 | 5 | U | 5 | U | No |
| MW9 | Downgradient | 185820 | Trichloroethene | ug/L | 340 | 5.0 | 5 | U | 5 | U | No |
| MW9 | Downgradient | 185825 | Vinyl Chloride | ug/L | 48 | 2.0 | 2 | U | 2 | U | No |

All data reported in ug/L.
NA - Not Applicable / U - Not Detected

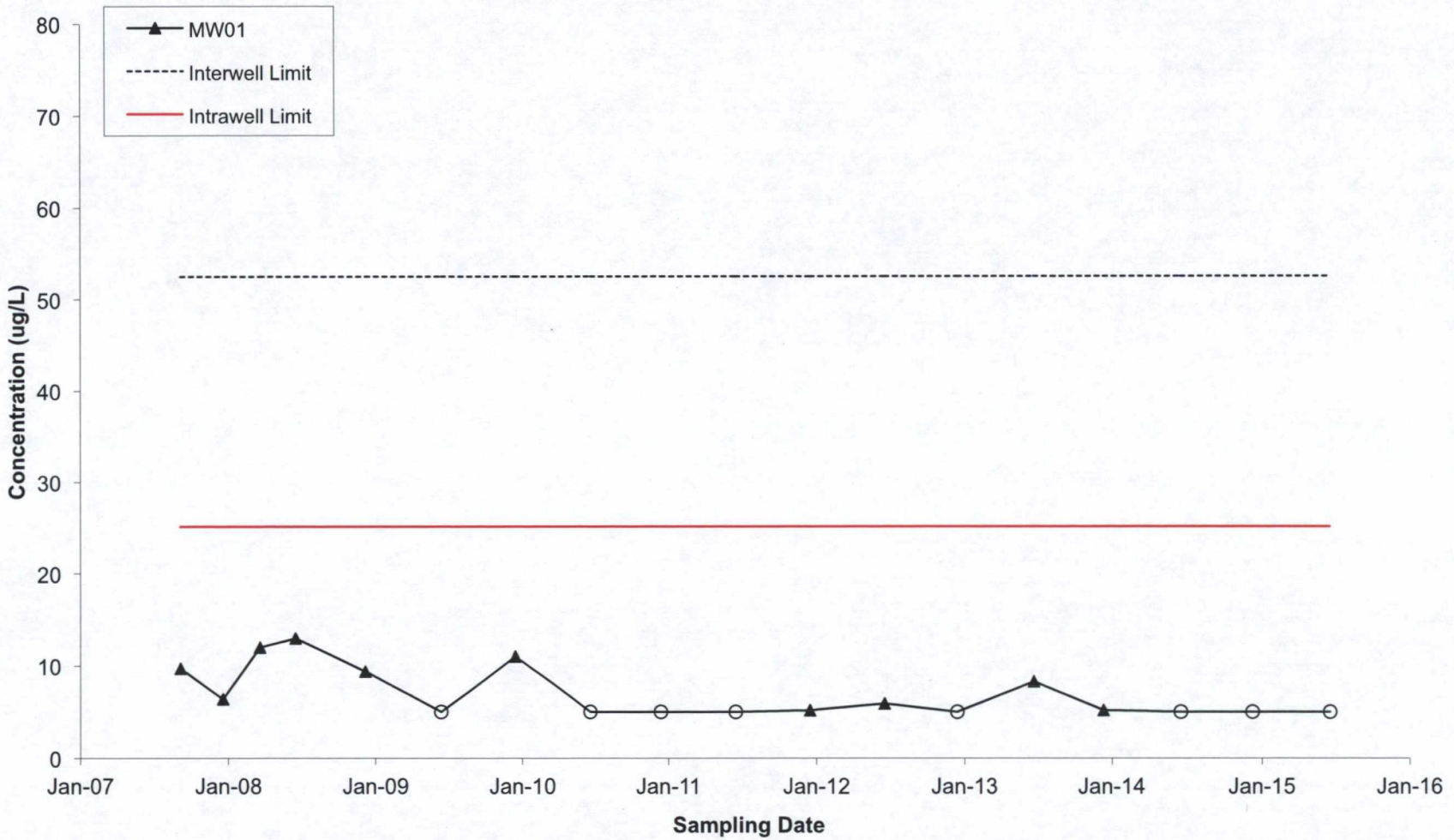
**REVISED LIMITS**

# Attachment 5

## COC Concentration Time Trends

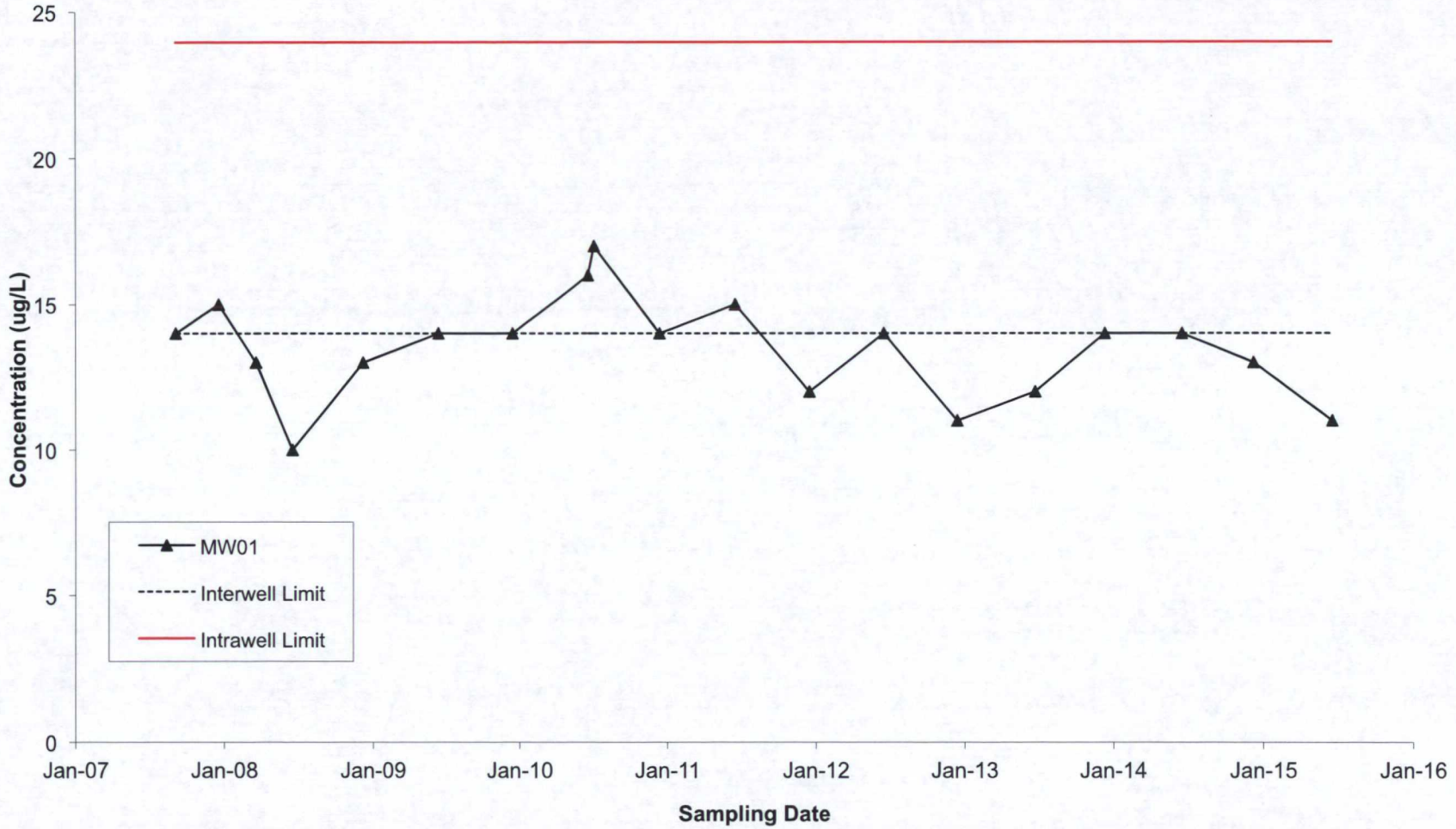
## 1,1,1-Trichloroethane in Well MW01
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



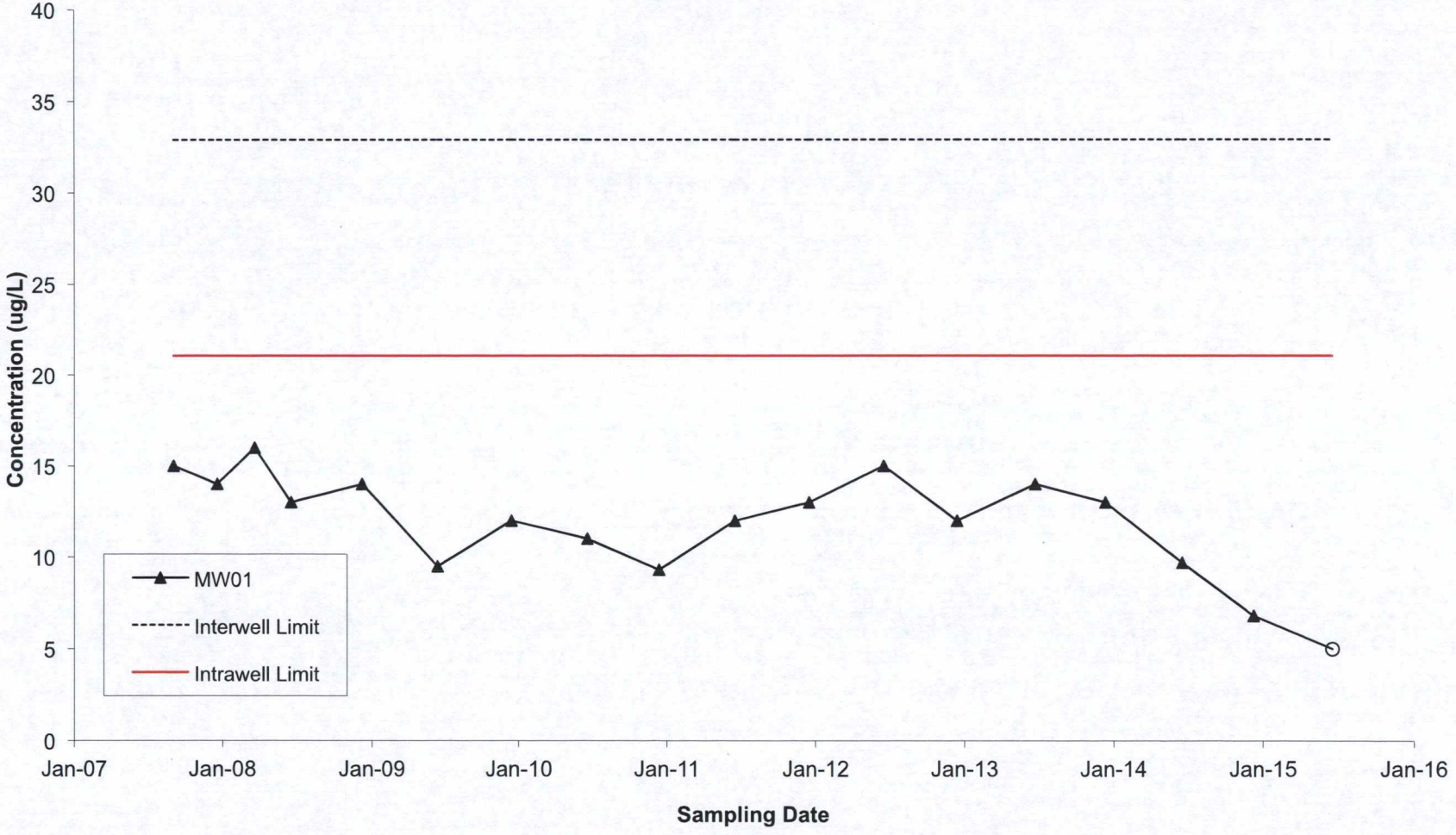
## 1,1-Dichloroethane in Well MW01
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



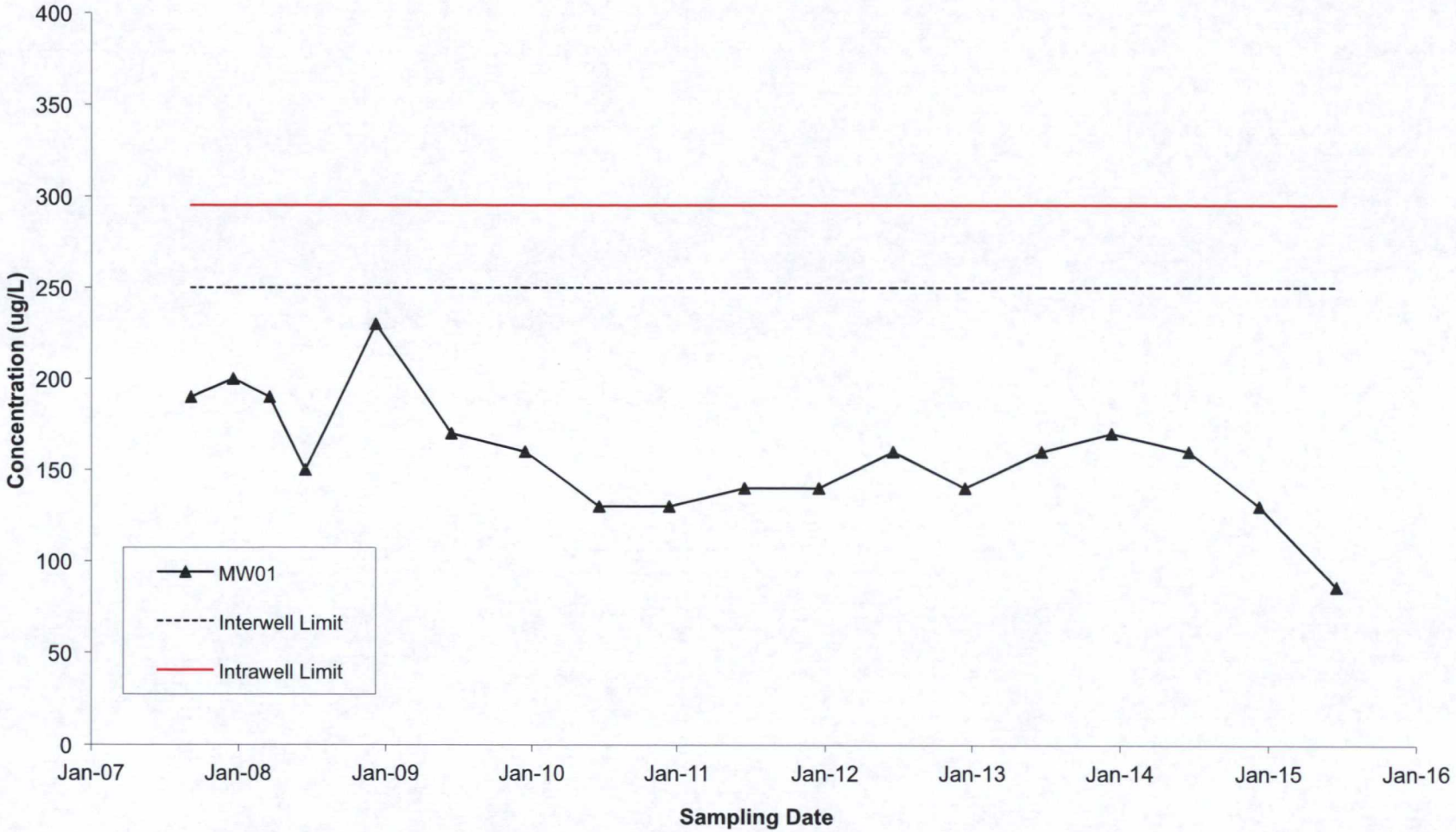
## 1,1-Dichloroethene in Well MW01
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



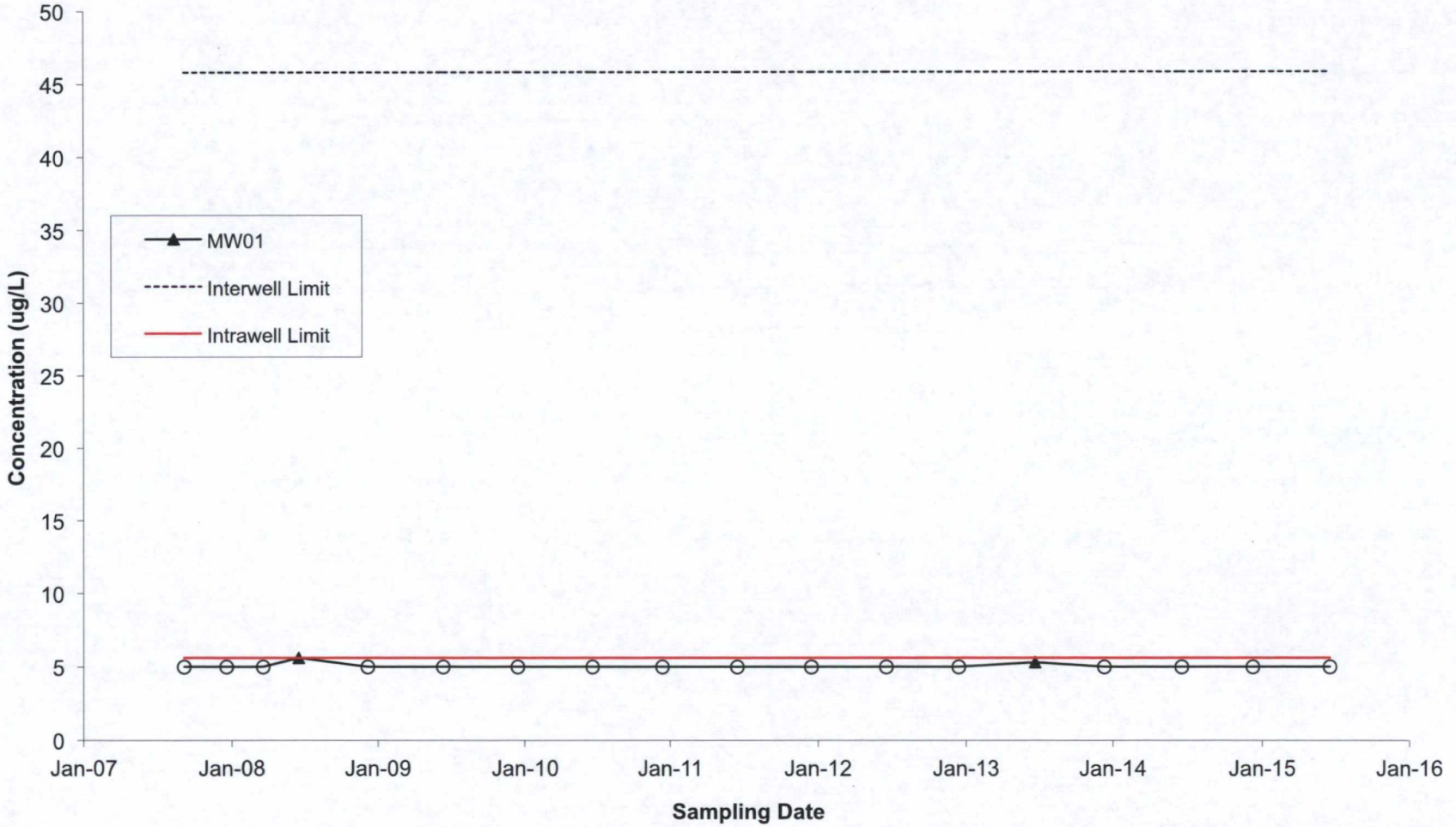
## cis-1,2-Dichloroethene in Well MW01
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



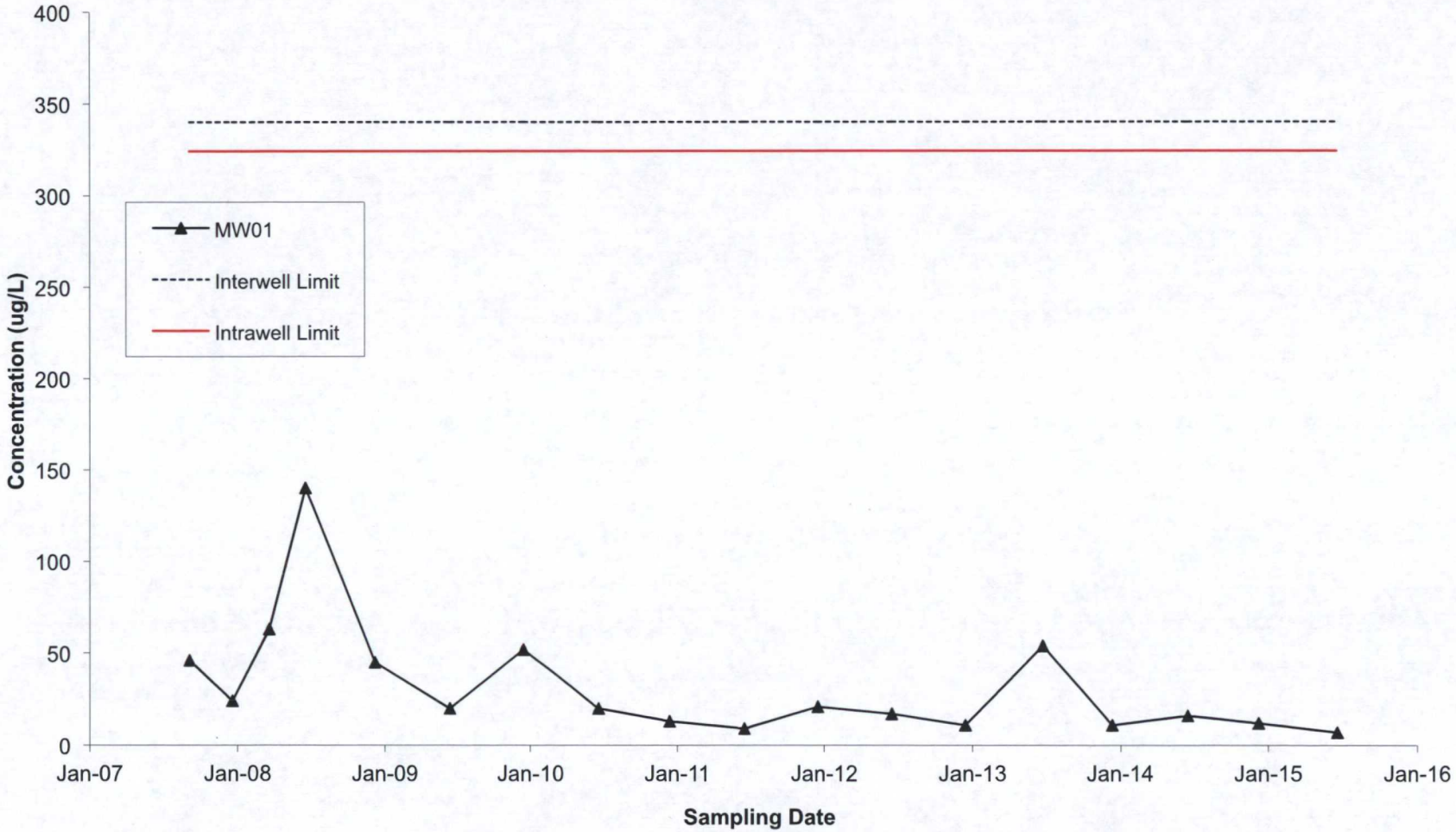
## Tetrachloroethene in Well MW01
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



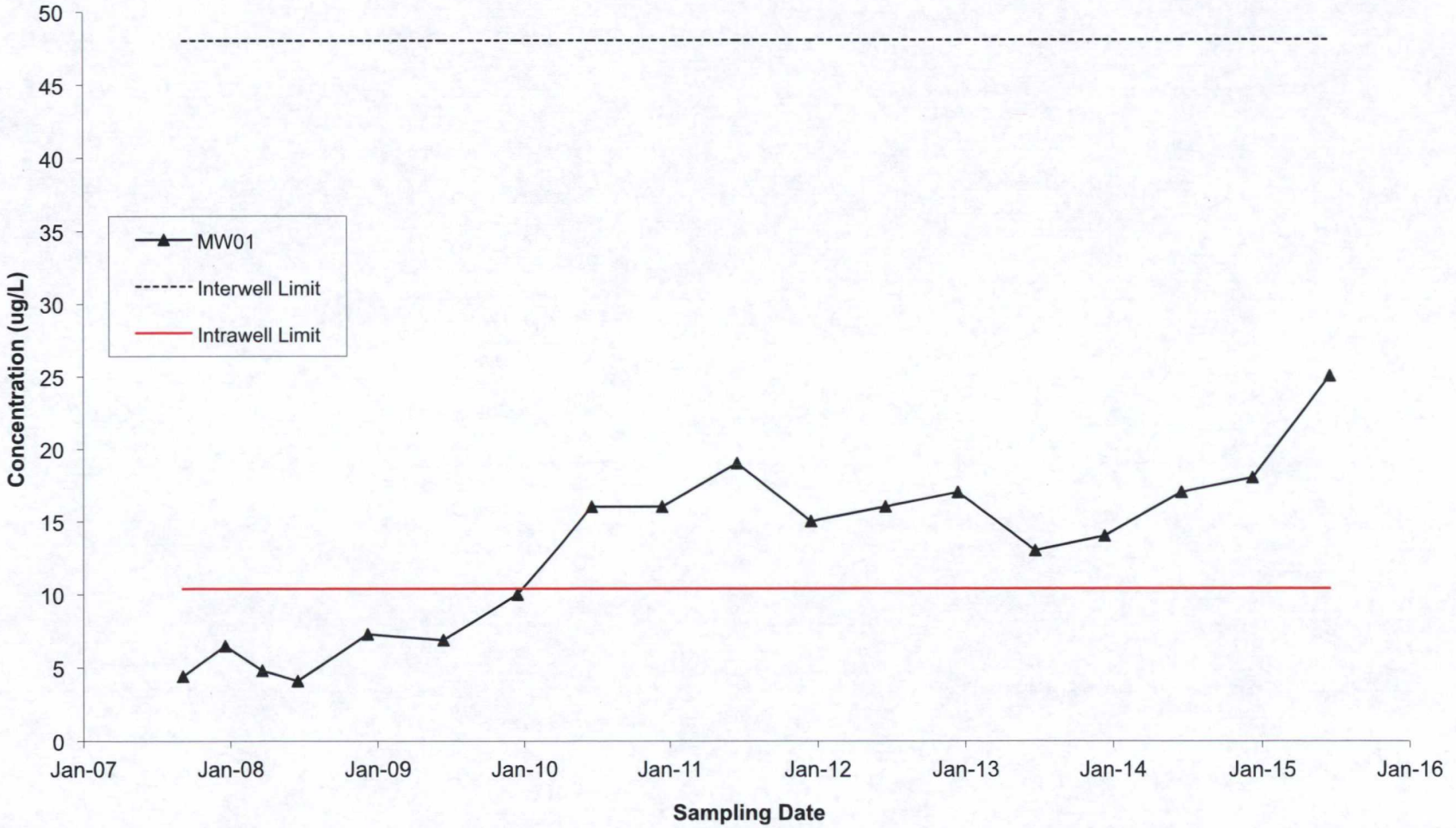
**Trichloroethene in Well MW01**
**IPC/Roto-Rooter Landfill**

Note: Non-detects are marked with a clear circle.



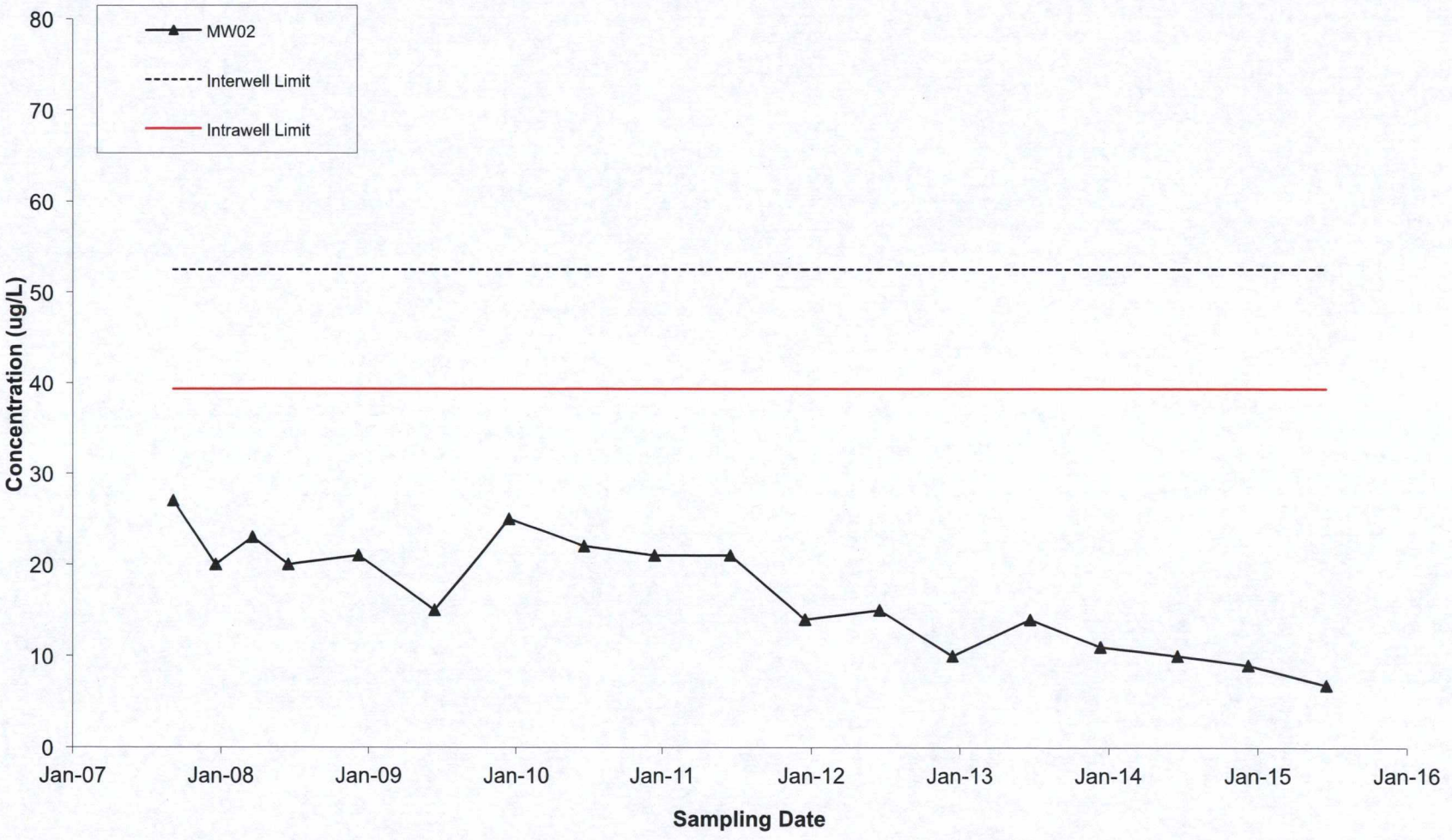
## Vinyl Chloride in Well MW01
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



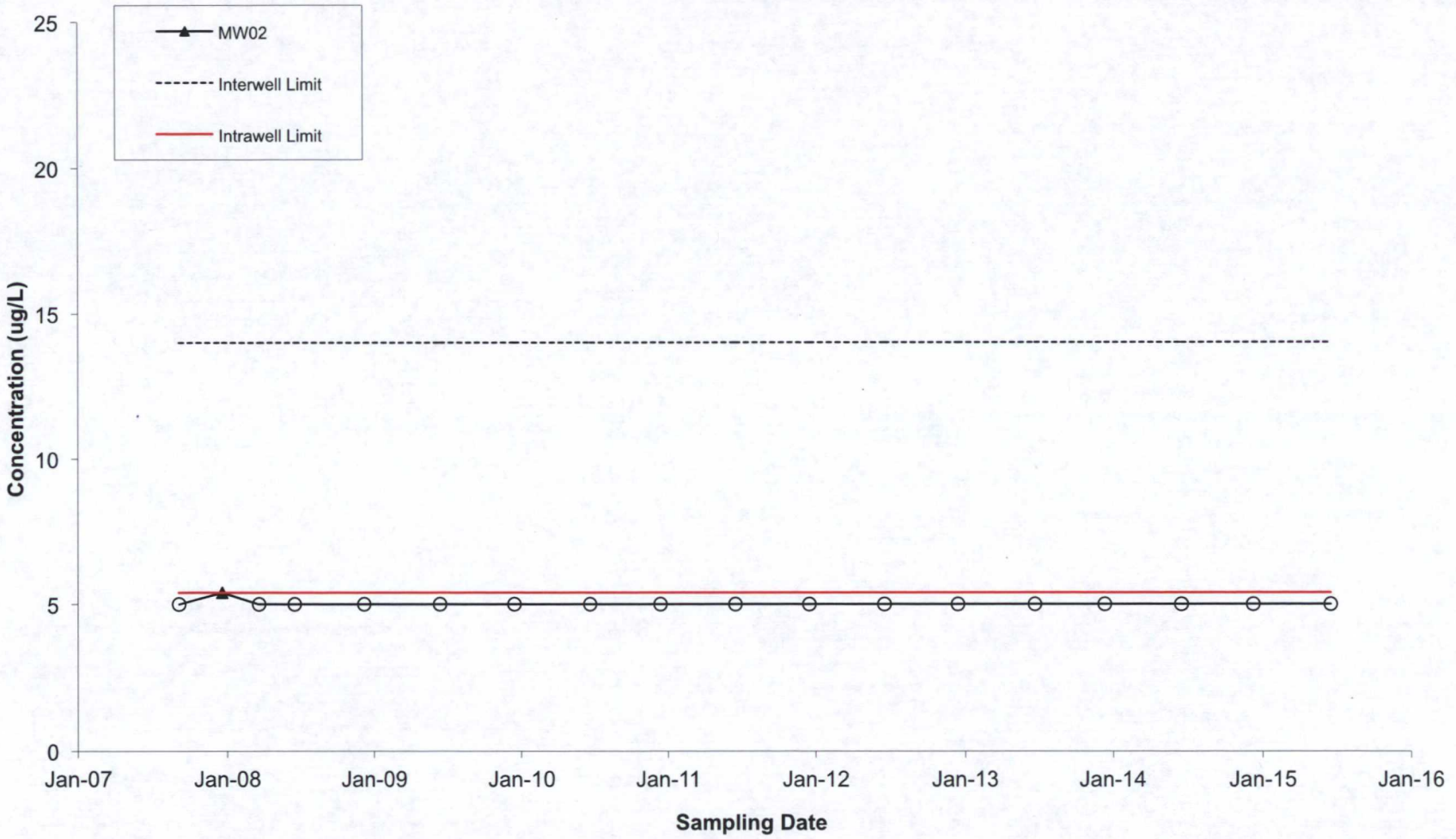
## 1,1,1-Trichloroethane in Well MW02
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



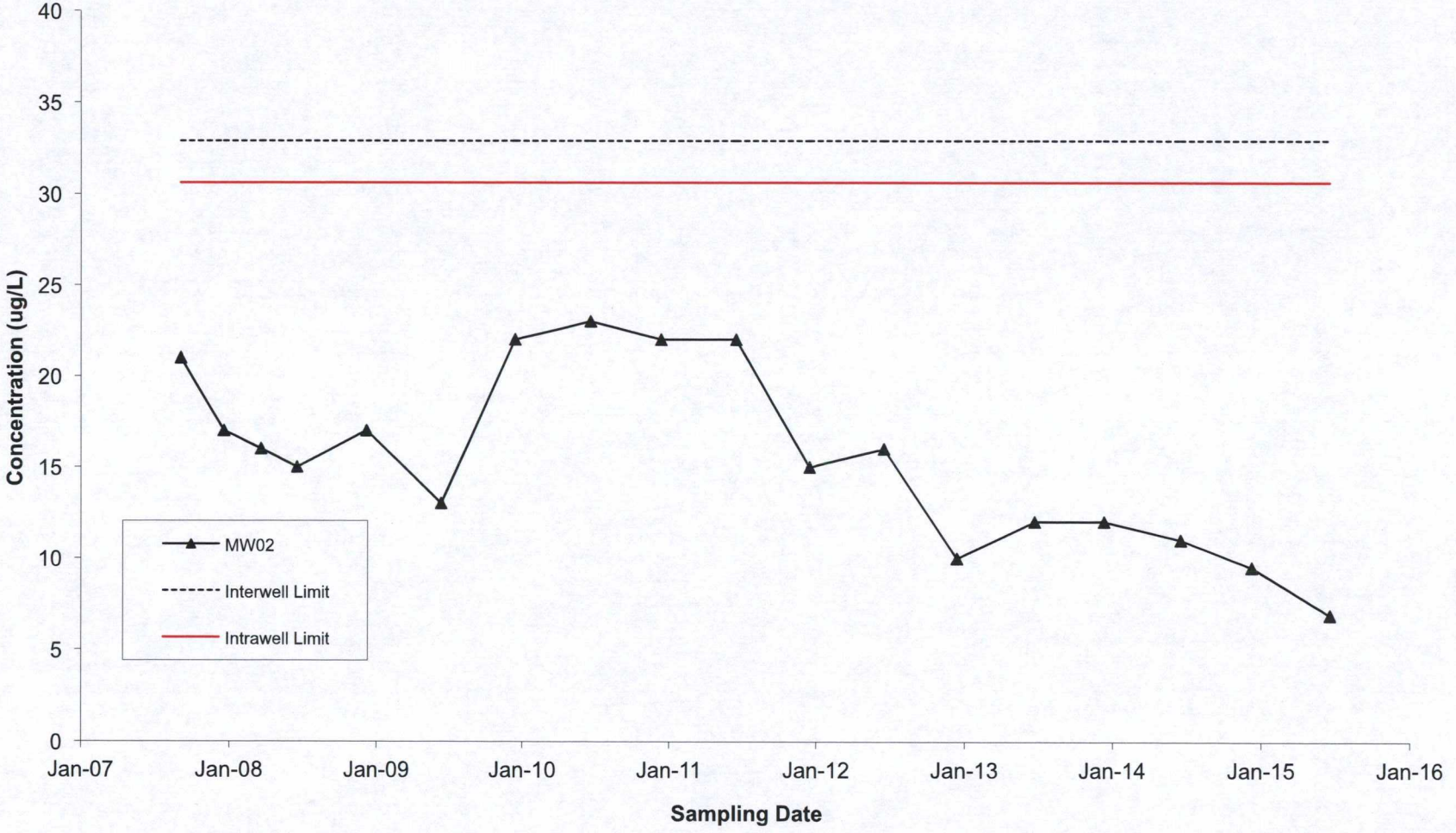
## 1,1-Dichloroethane in Well MW02
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



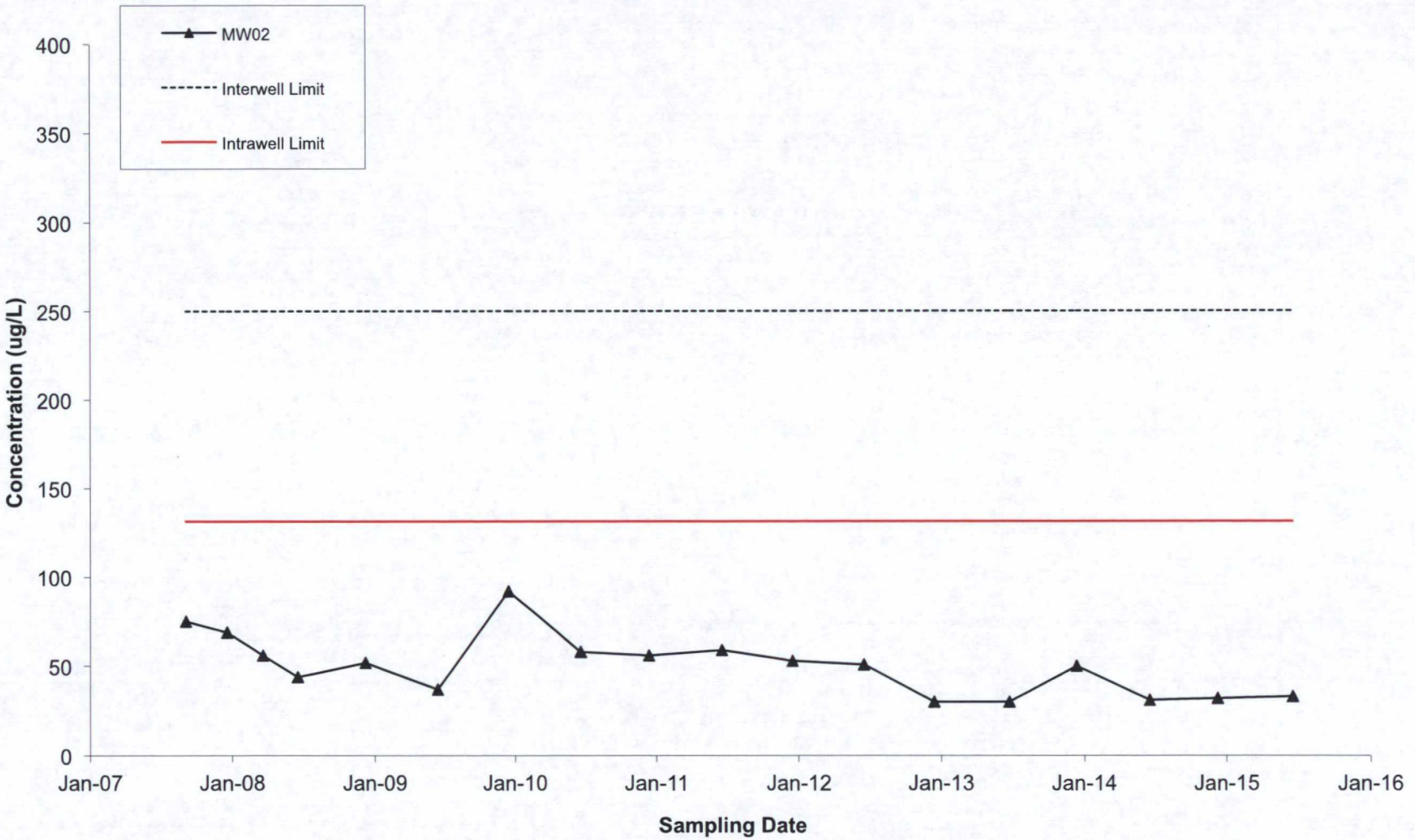
## 1,1-Dichloroethene in Well MW02
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



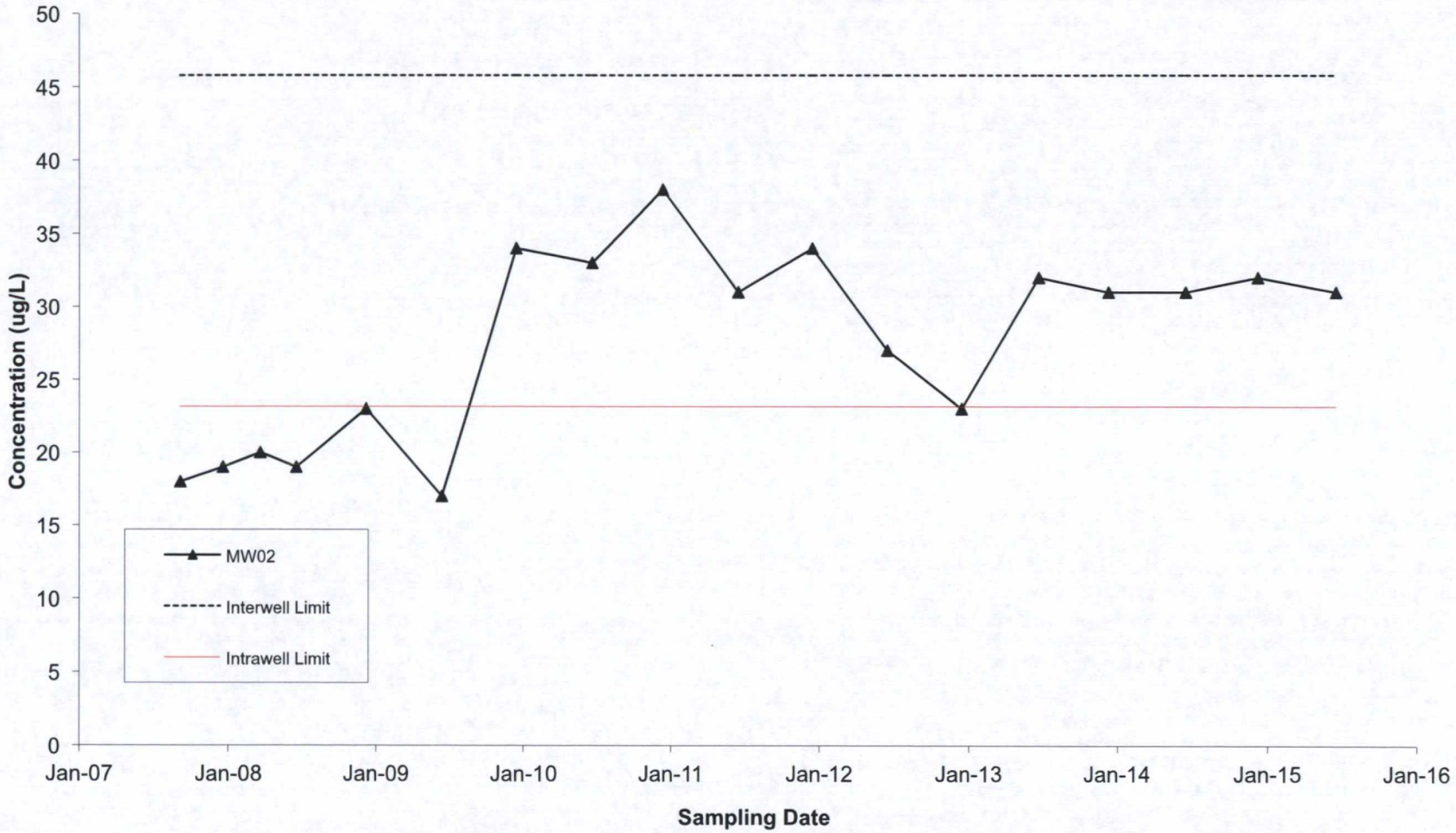
## cis-1,2-Dichloroethene in Well MW02
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



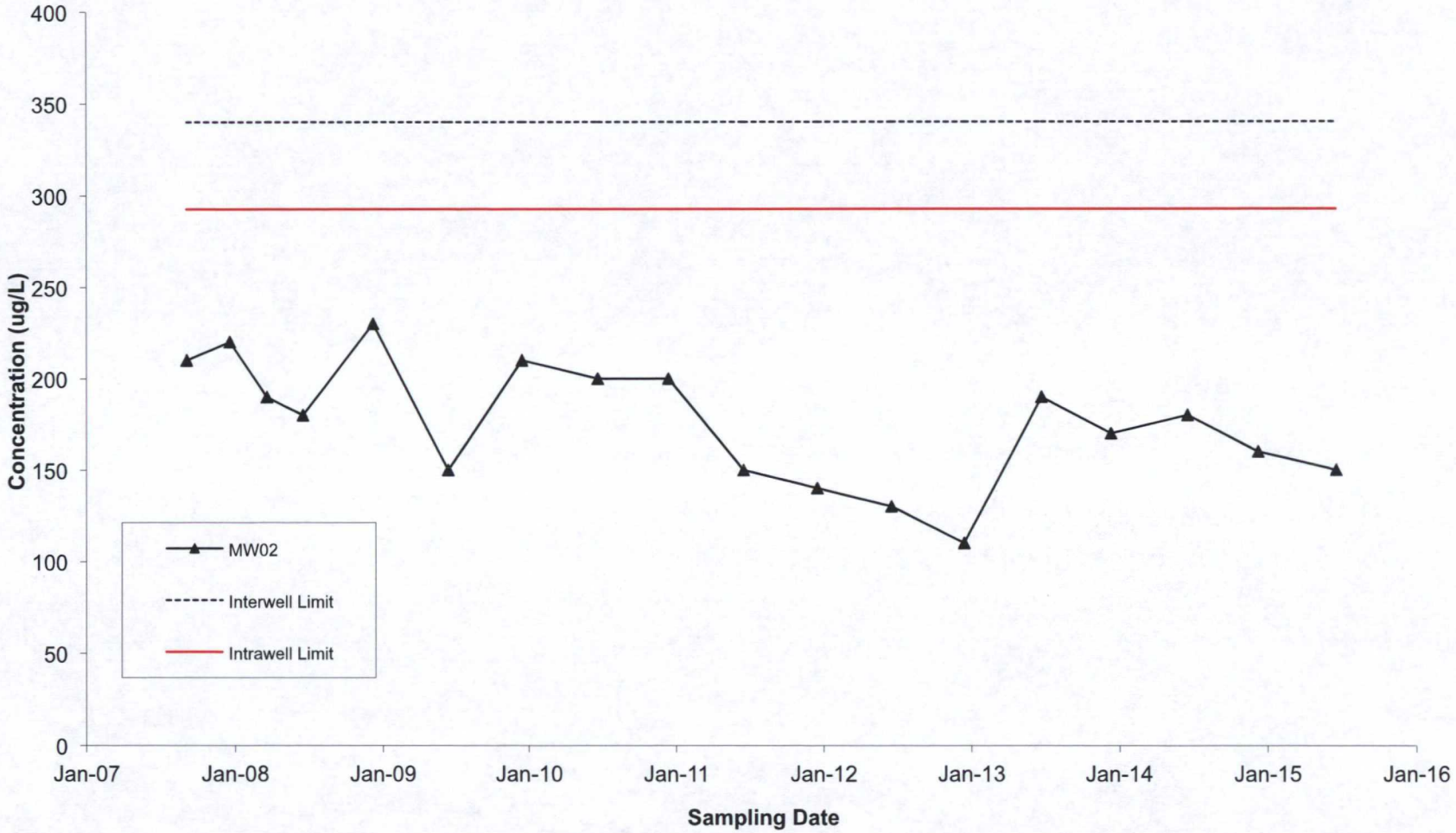
## Tetrachloroethene in Well MW02
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



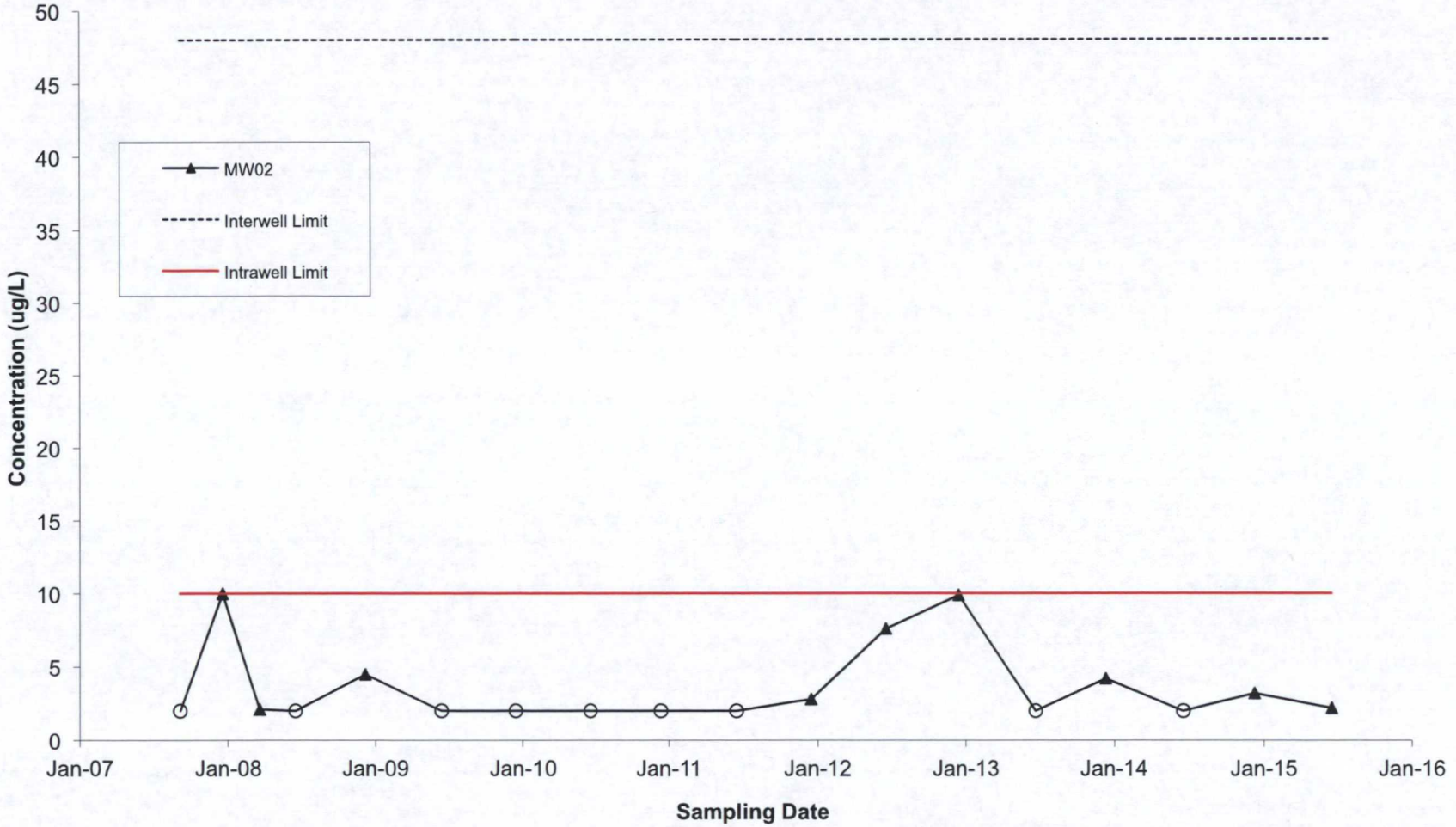
## Trichloroethene in Well MW02
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



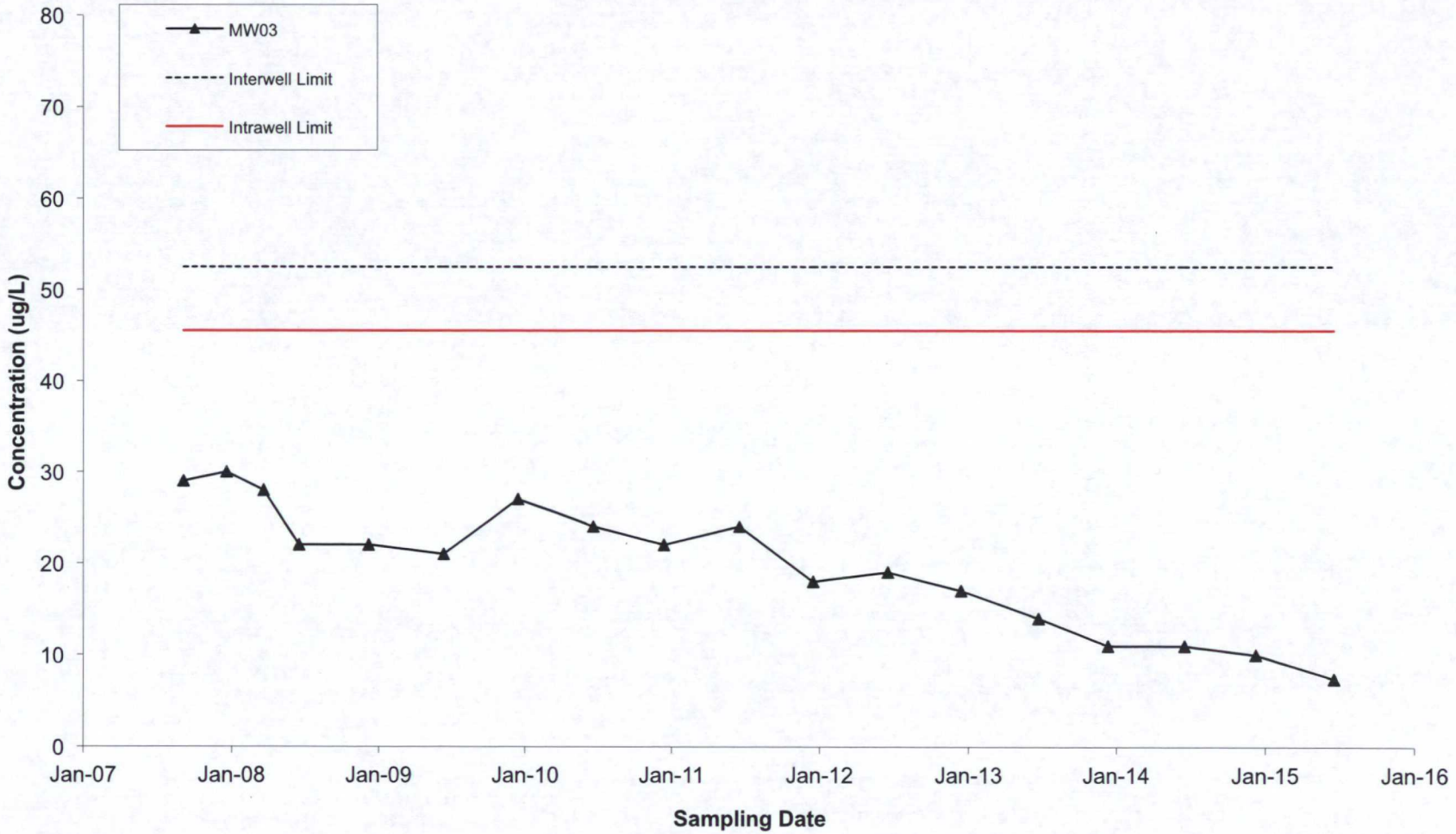
## Vinyl Chloride in Well MW02
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



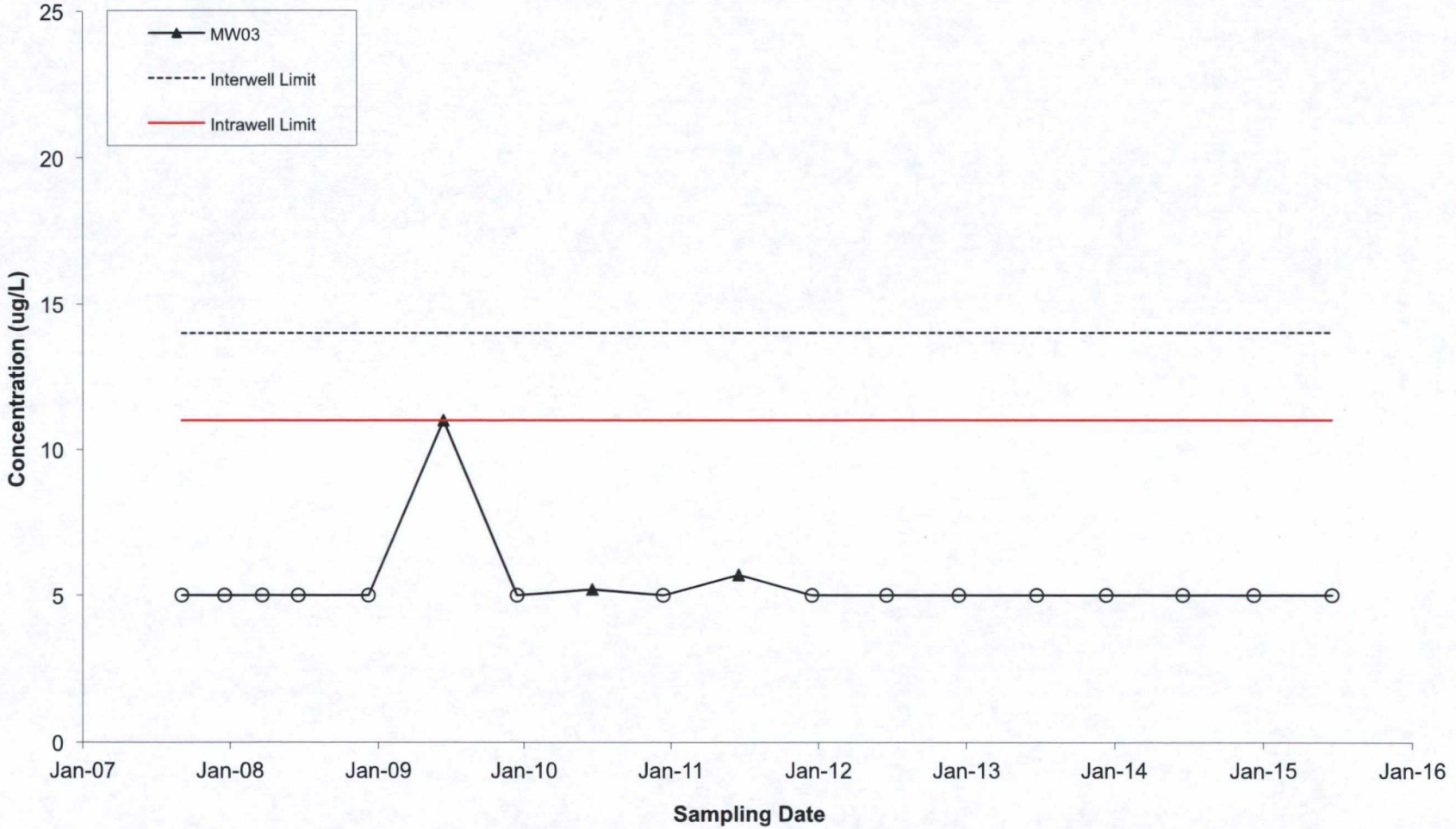
## 1,1,1-Trichloroethane in Well MW03
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



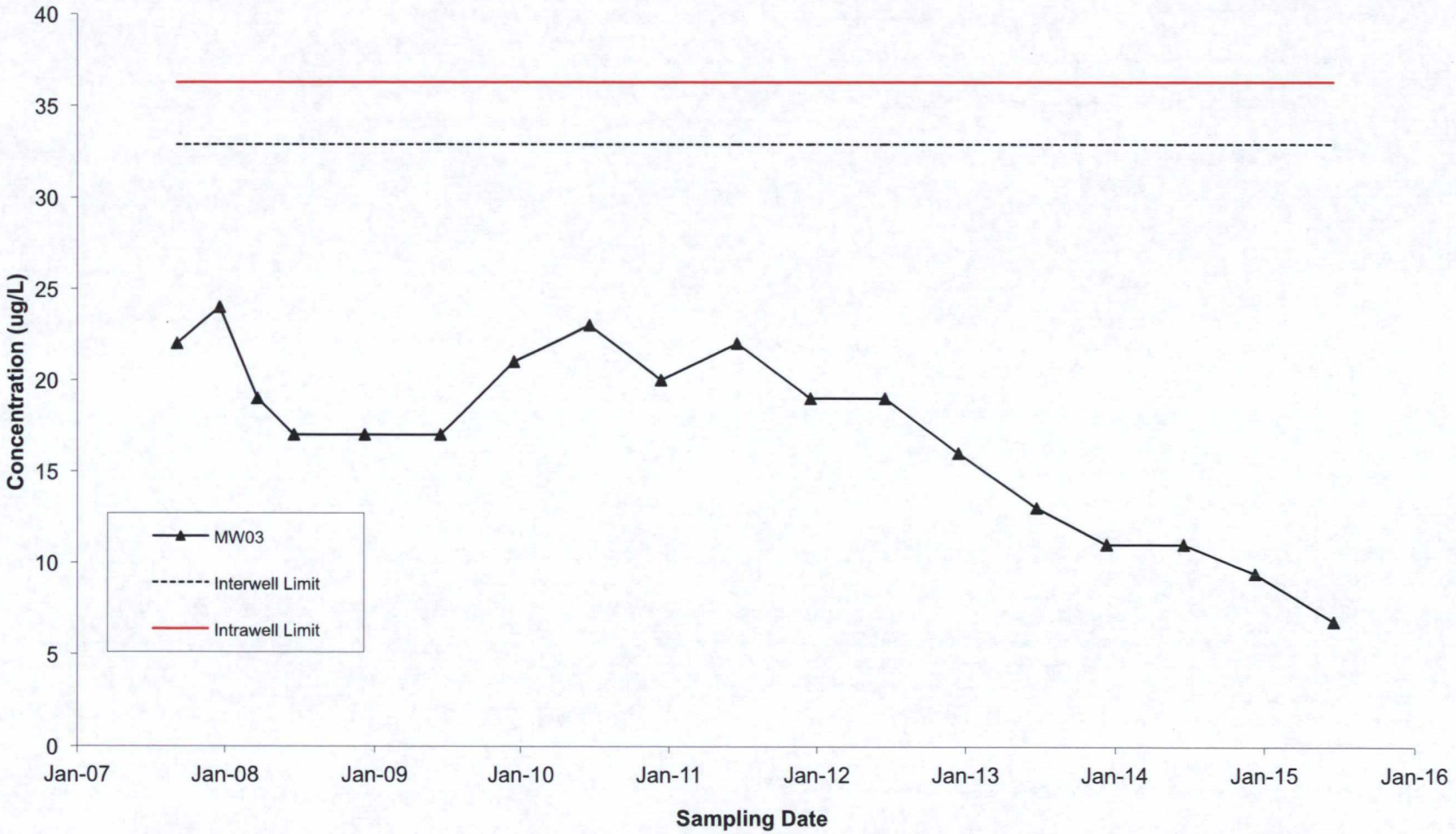
## 1,1-Dichloroethane in Well MW03
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



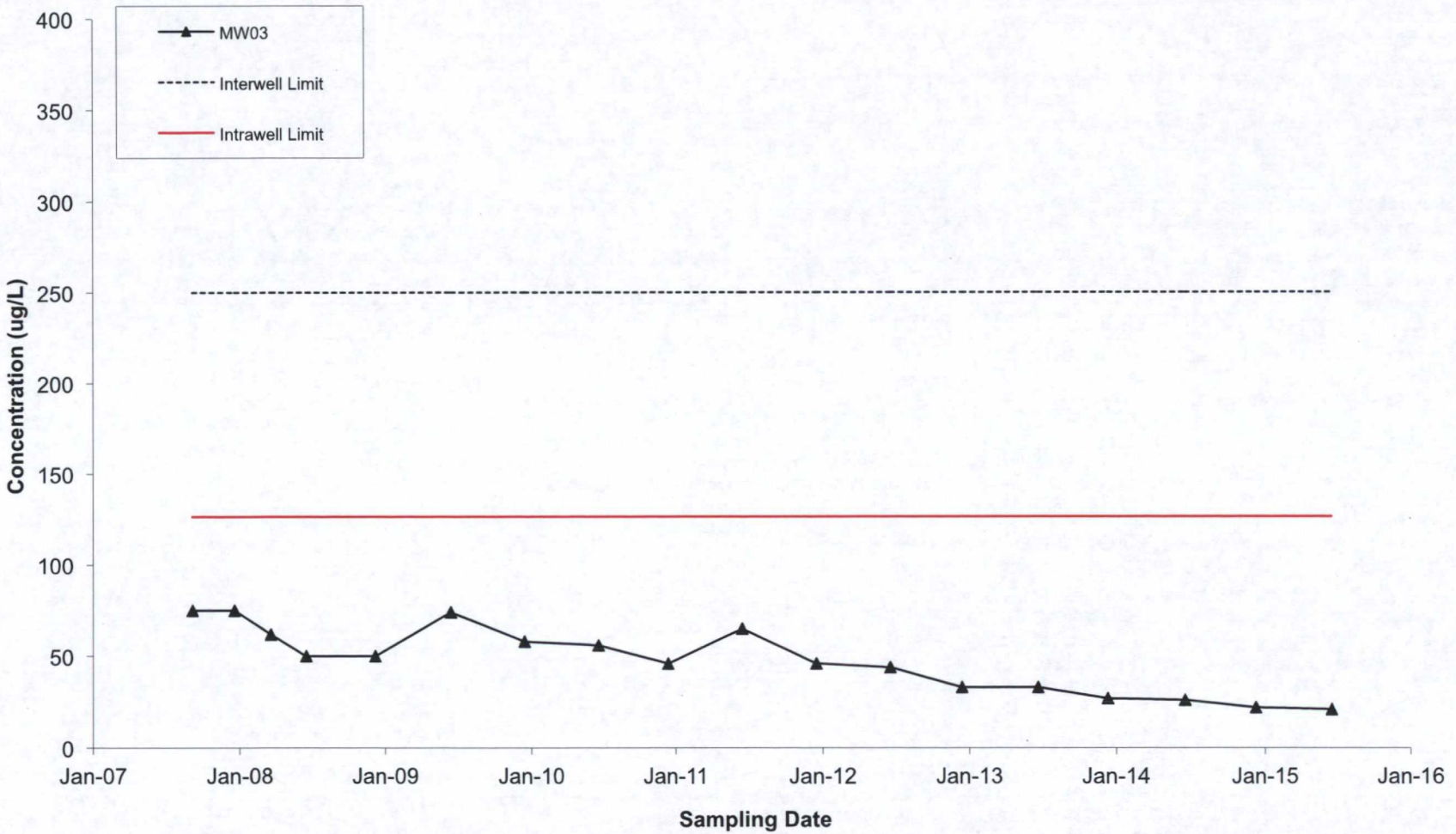
## 1,1-Dichloroethene in Well MW03
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



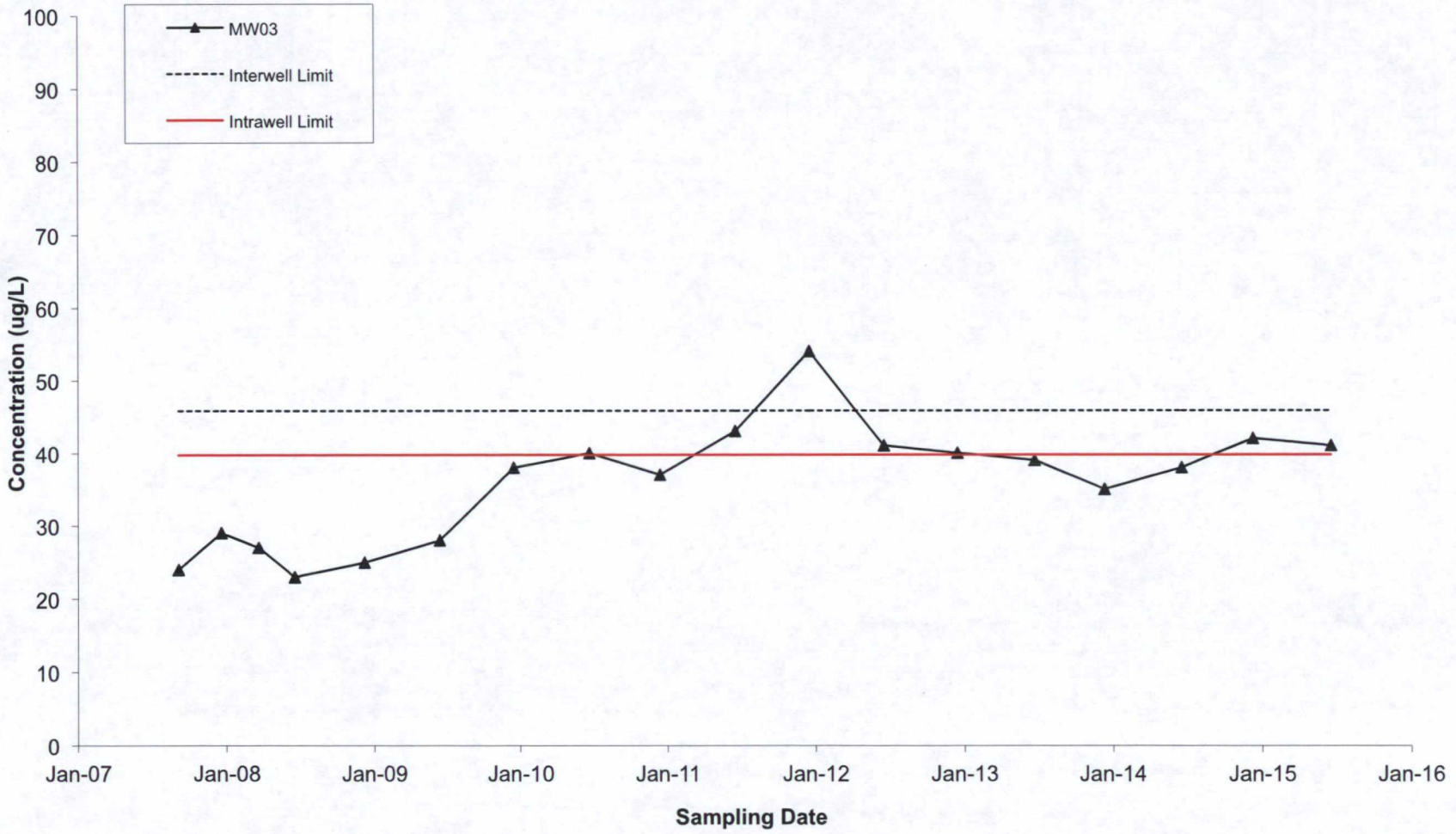
## cis-1,2-Dichloroethene in Well MW03
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



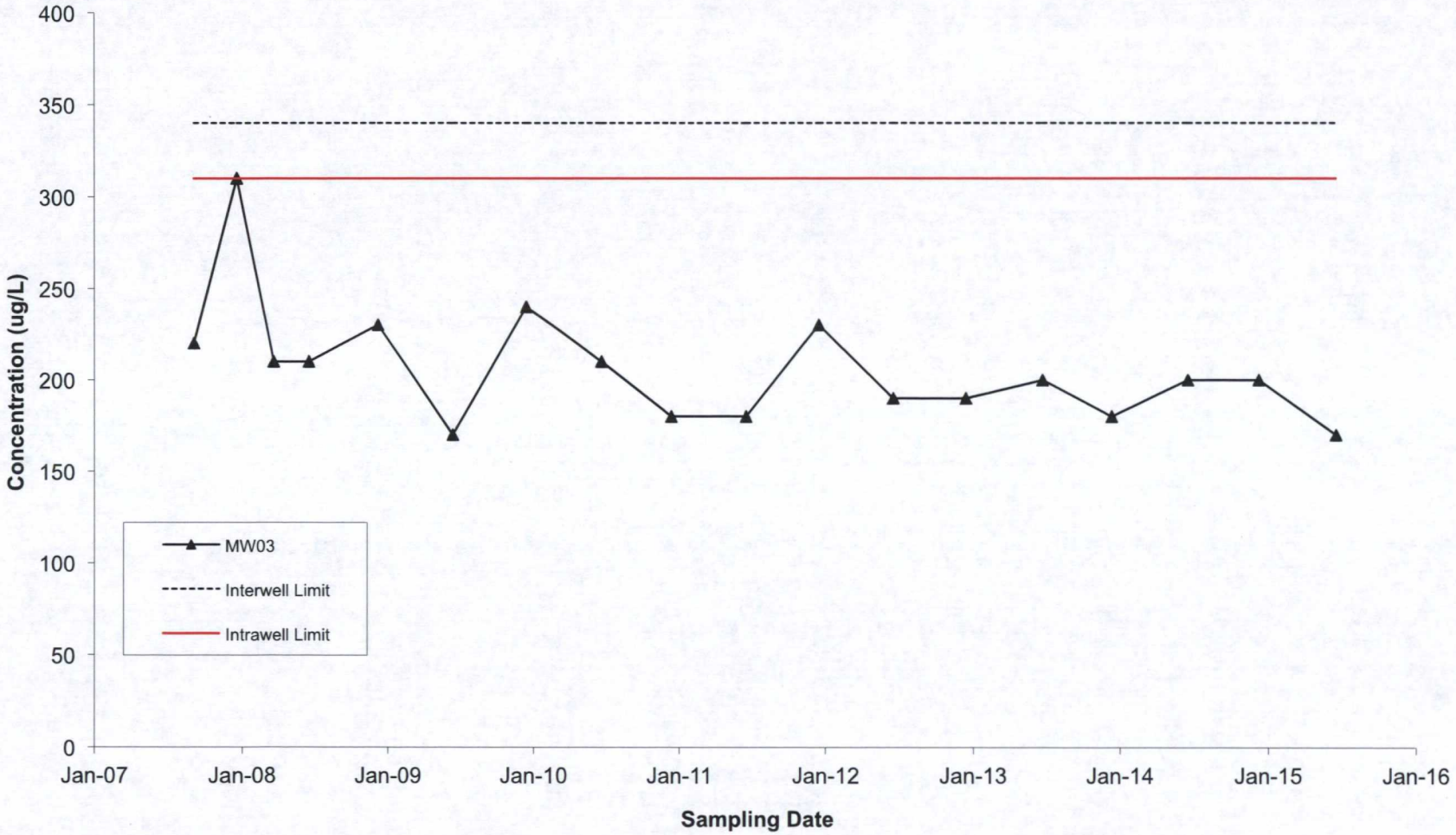
## Tetrachloroethene in Well MW03
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



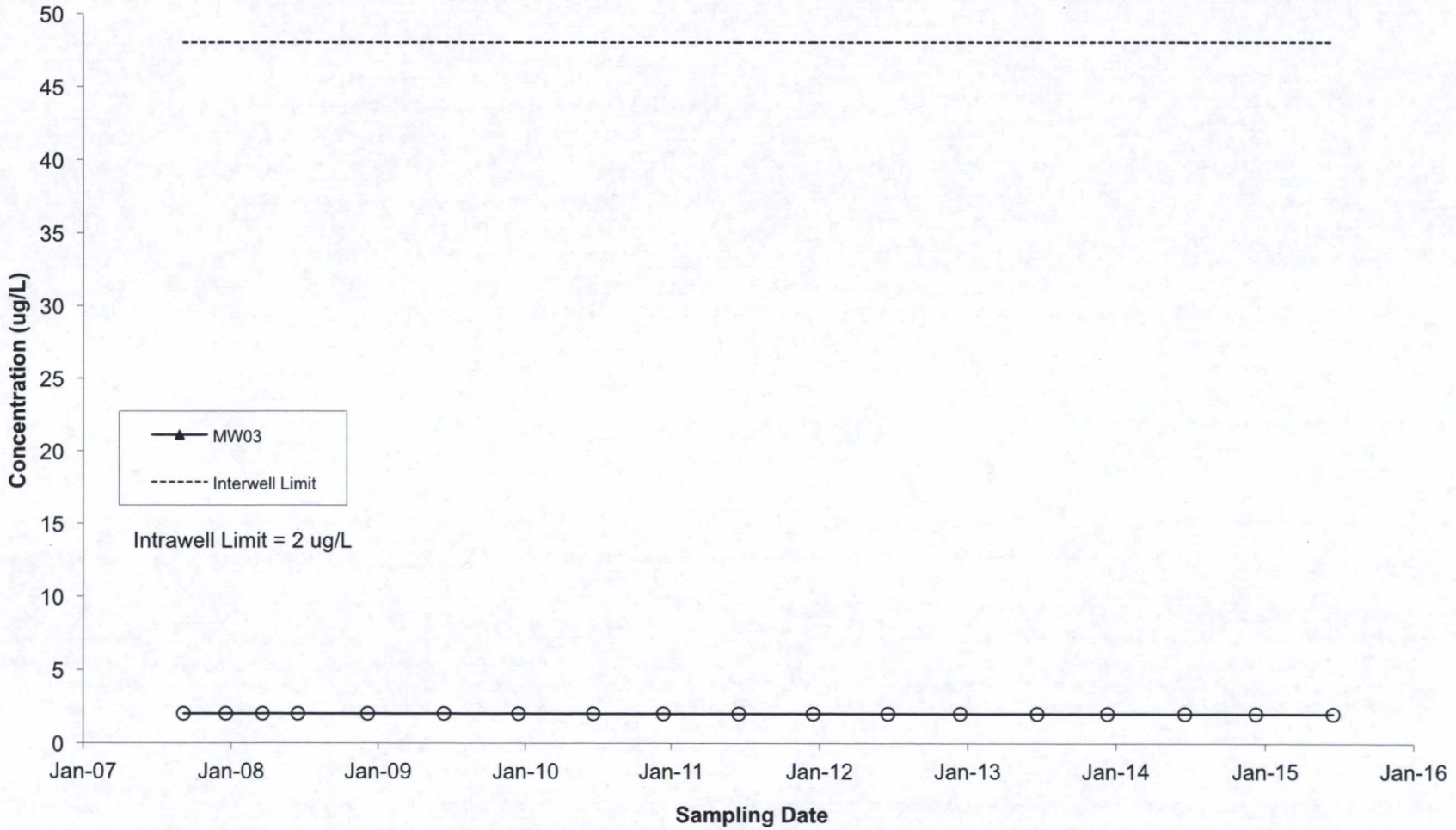
## Trichloroethene in Well MW03
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



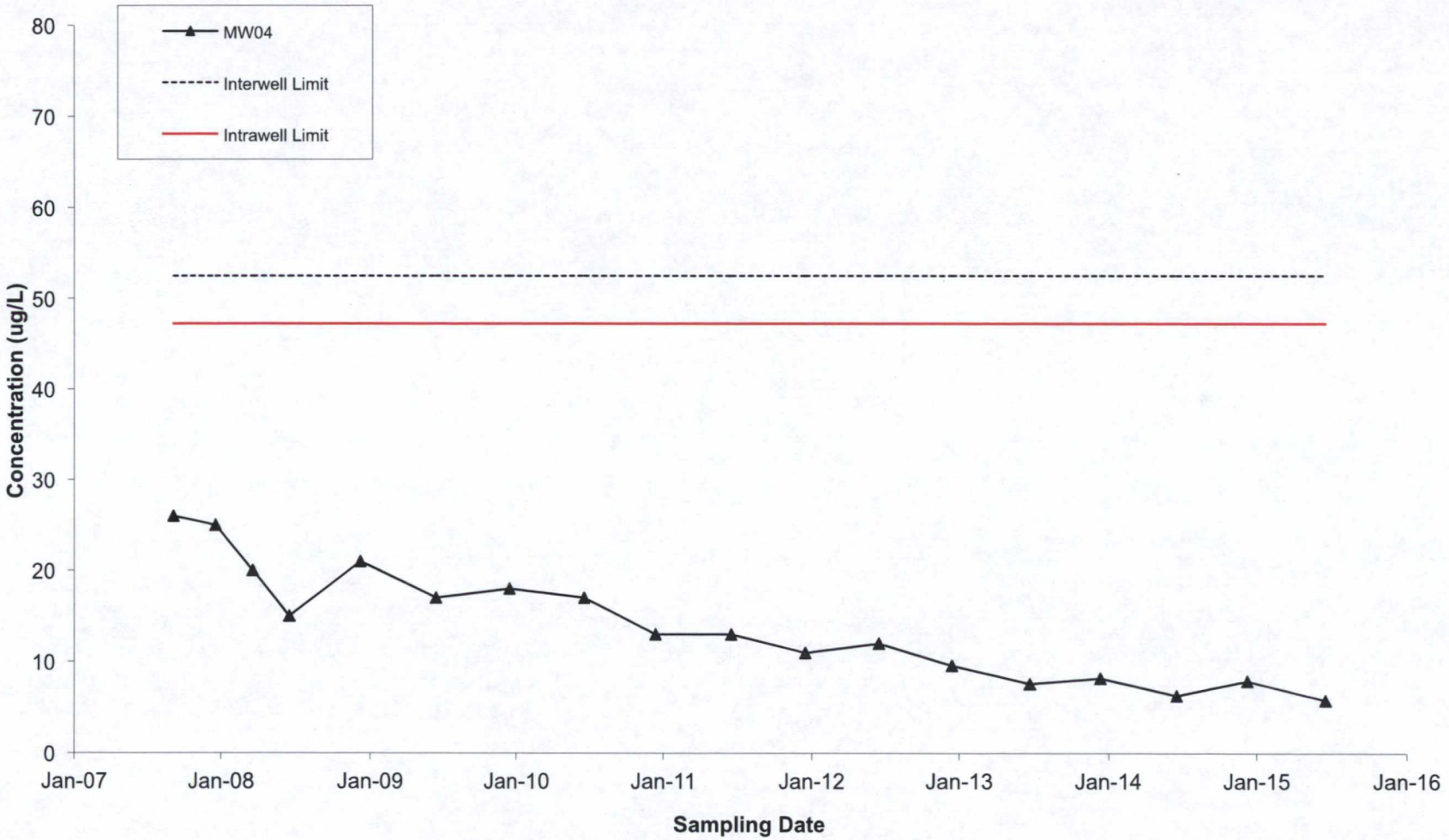
## Vinyl Chloride in Well MW03
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



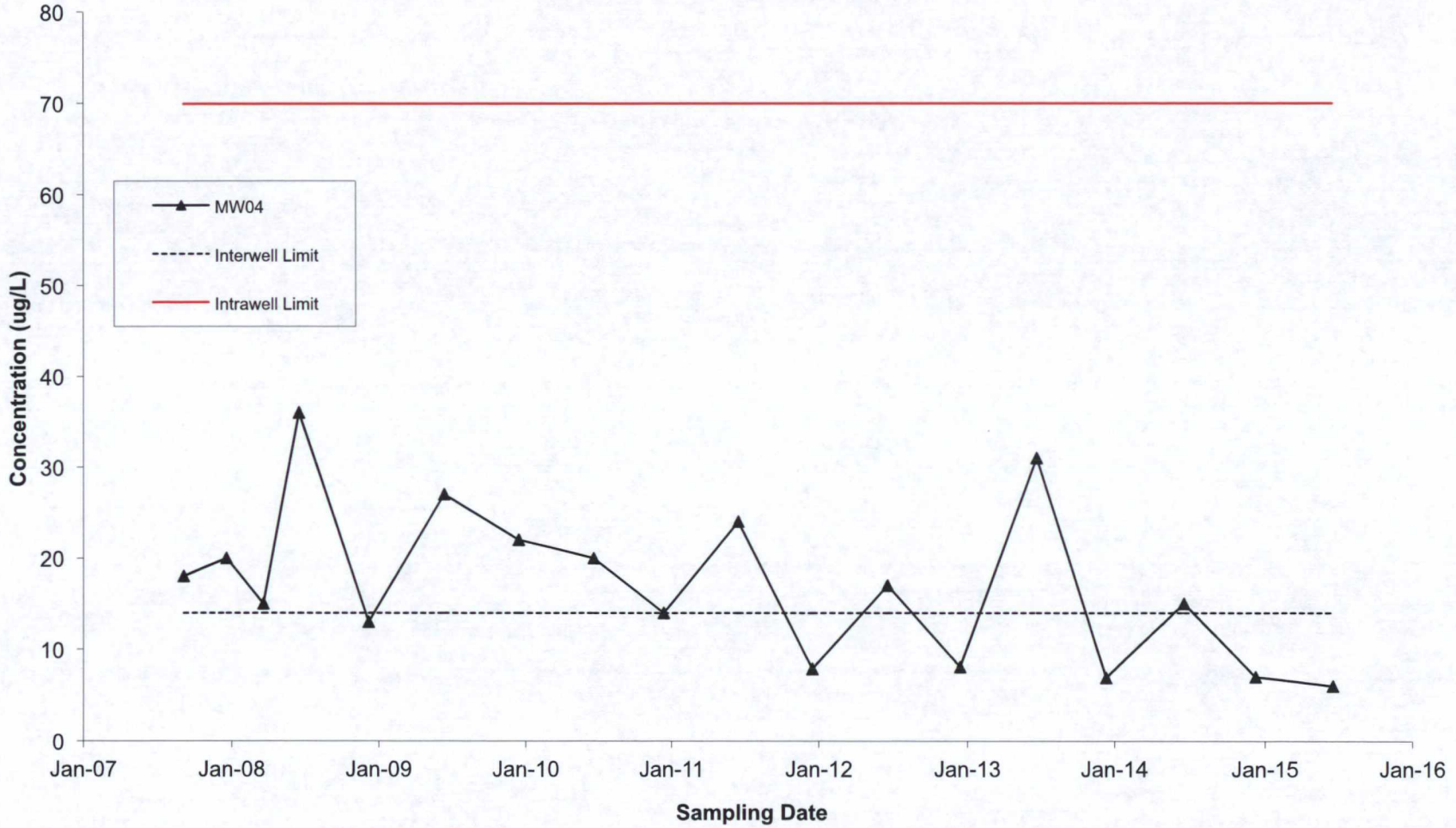
## 1,1,1-Trichloroethane in Well MW04
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



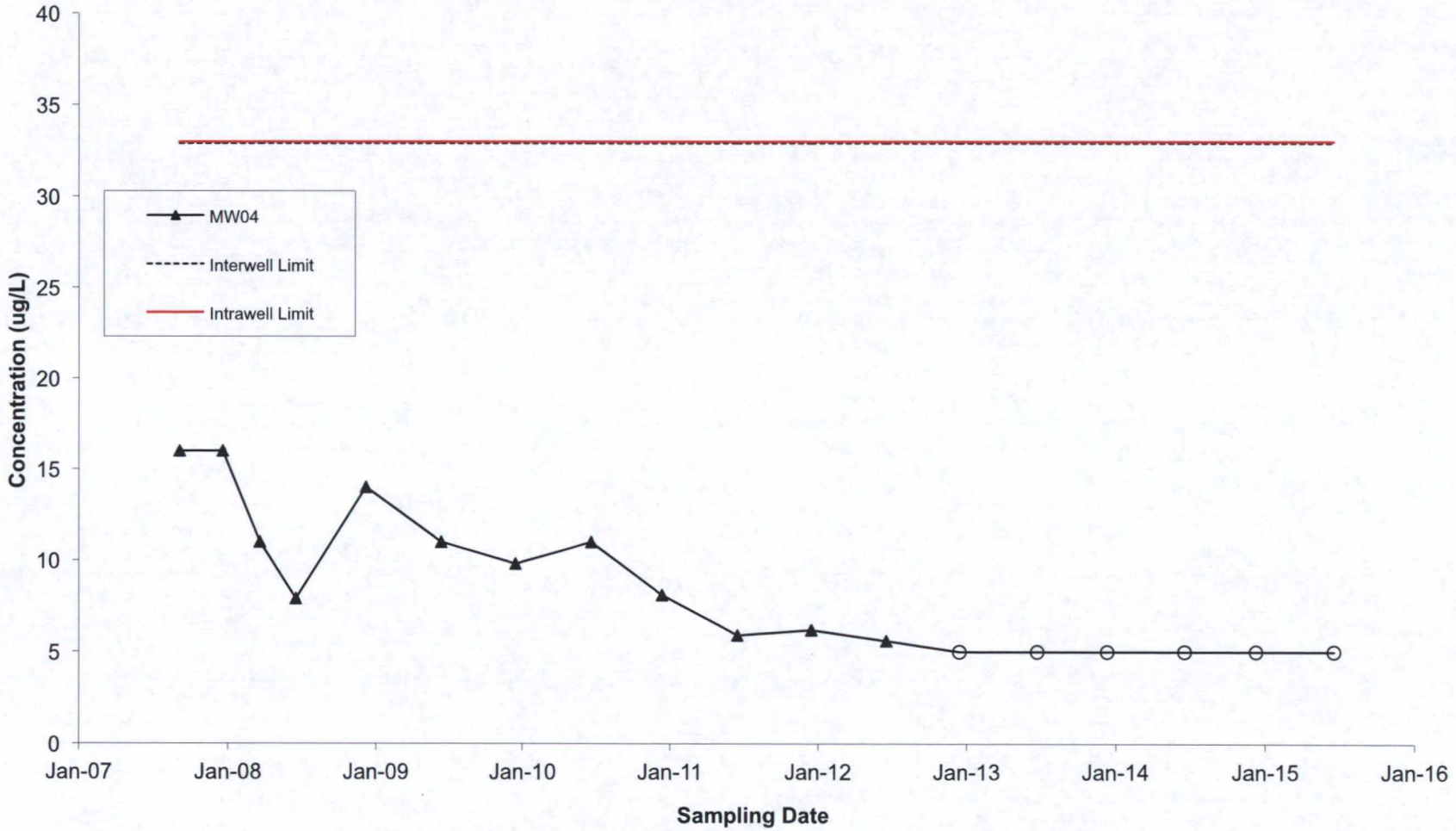
## 1,1-Dichloroethane in Well MW04
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



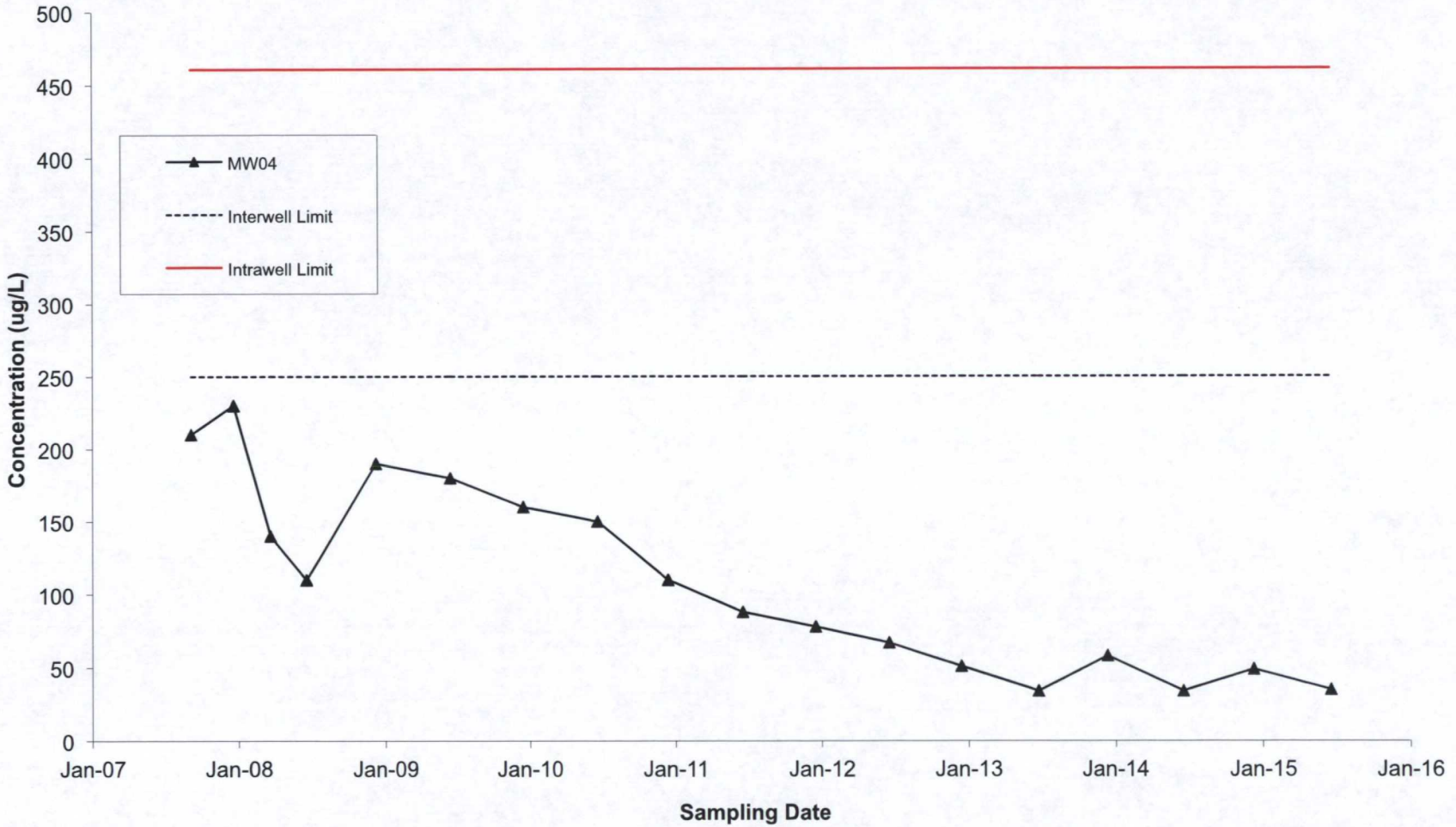
## 1,1-Dichloroethene in Well MW04
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



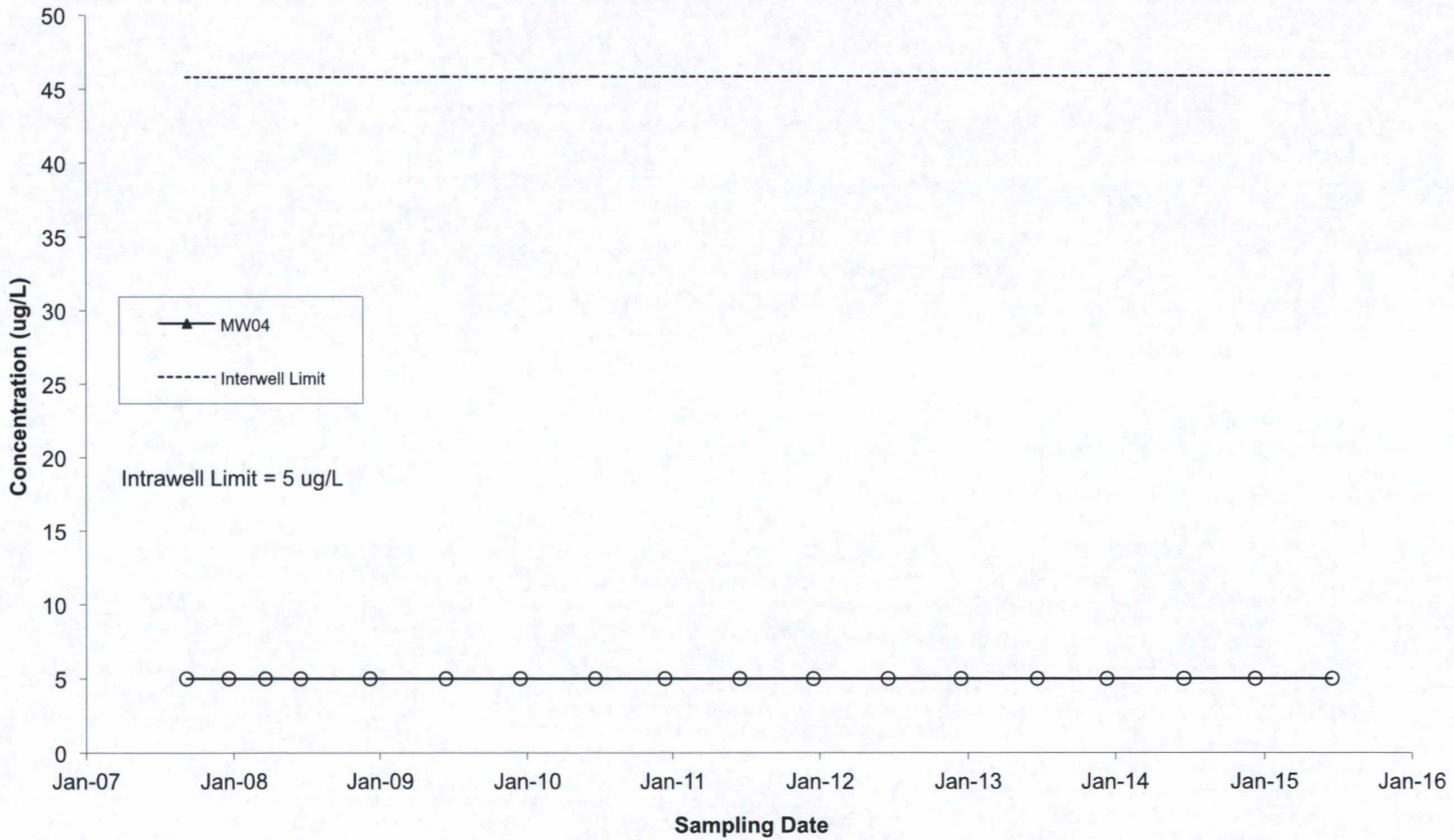
## cis-1,2-Dichloroethene in Well MW04
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



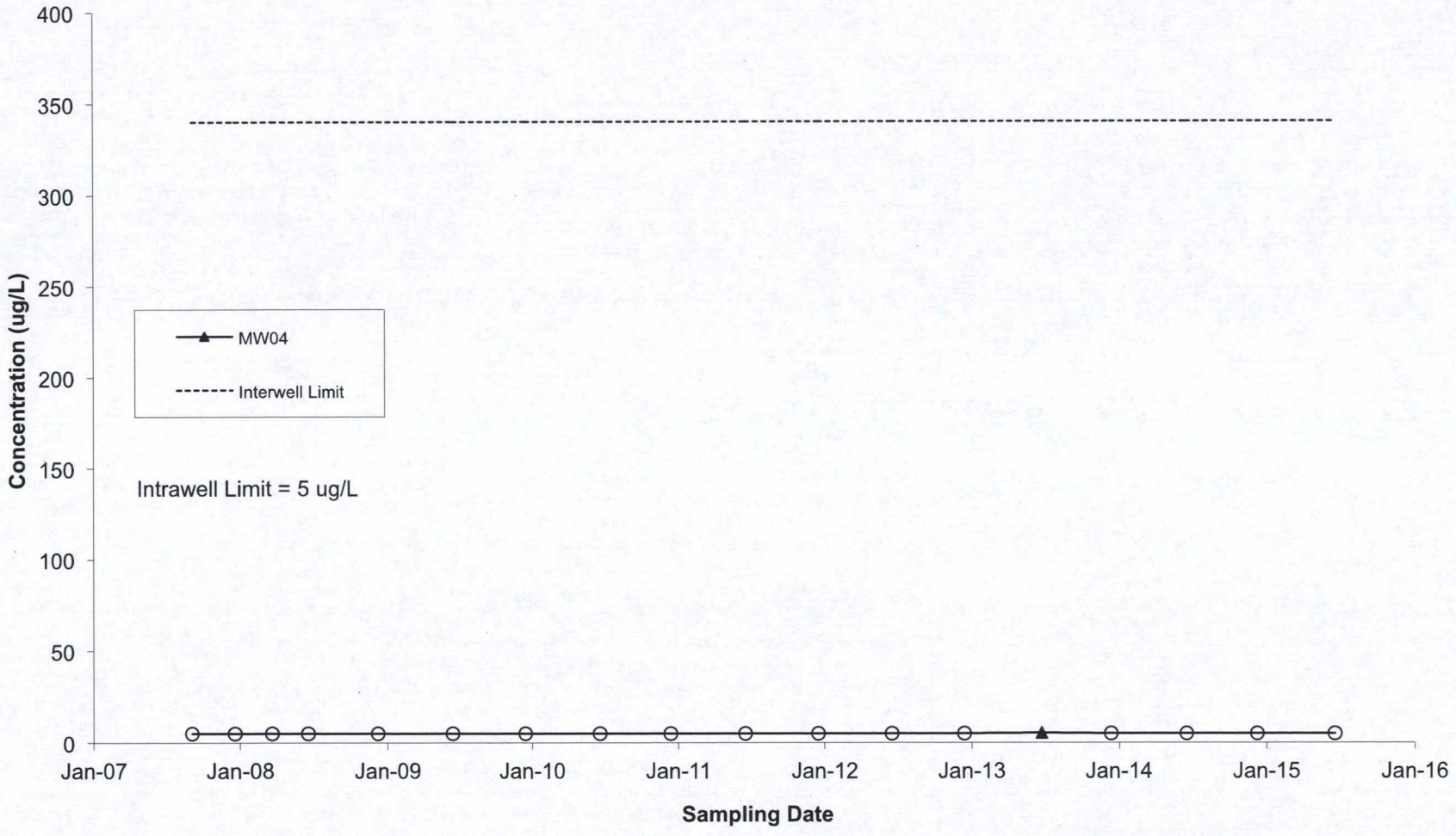
## Tetrachloroethene in Well MW04
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



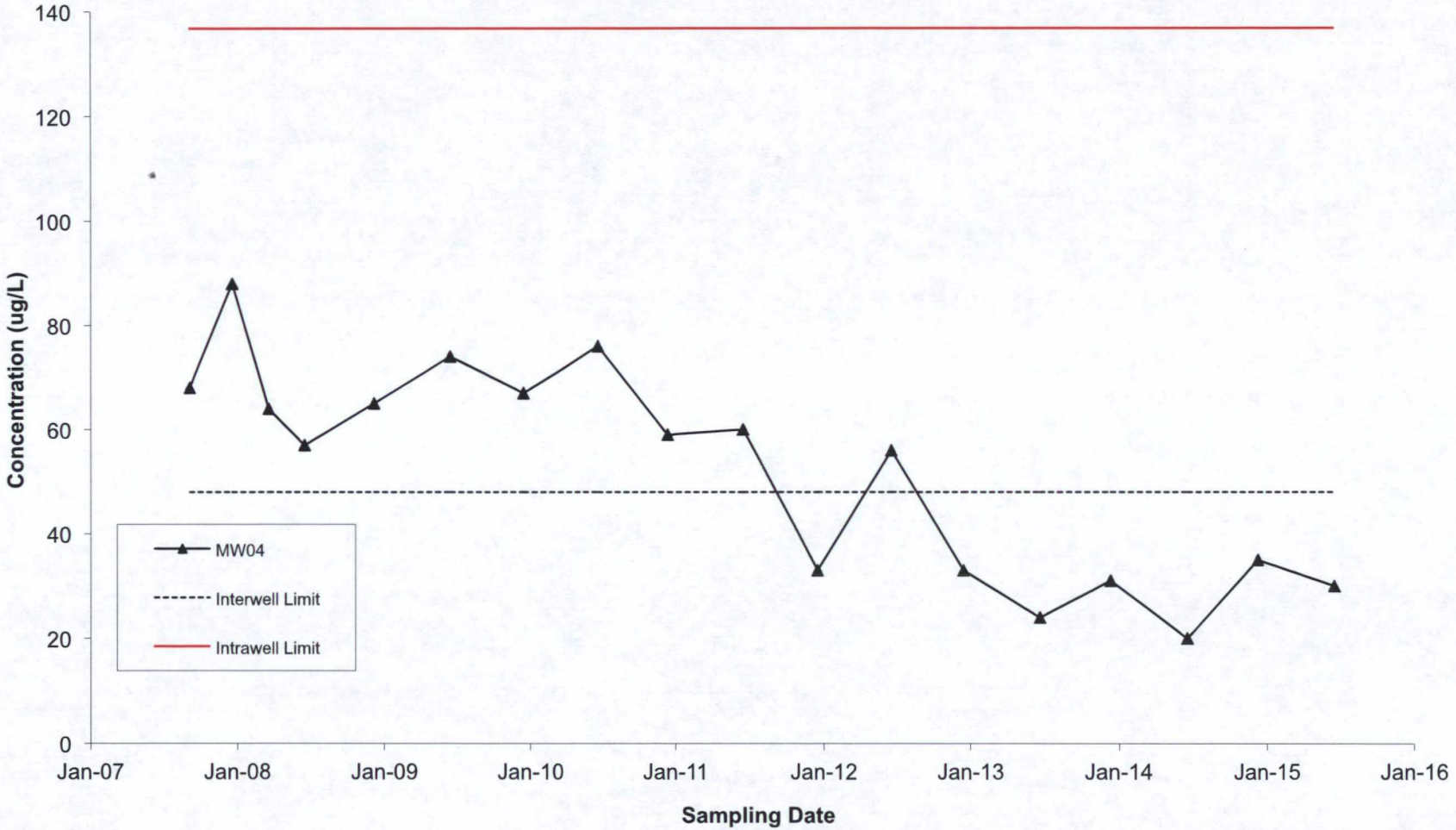
**Trichloroethene in Well MW04**
**IPC/Roto-Rooter Landfill**

Note: Non-detects are marked with a clear circle.



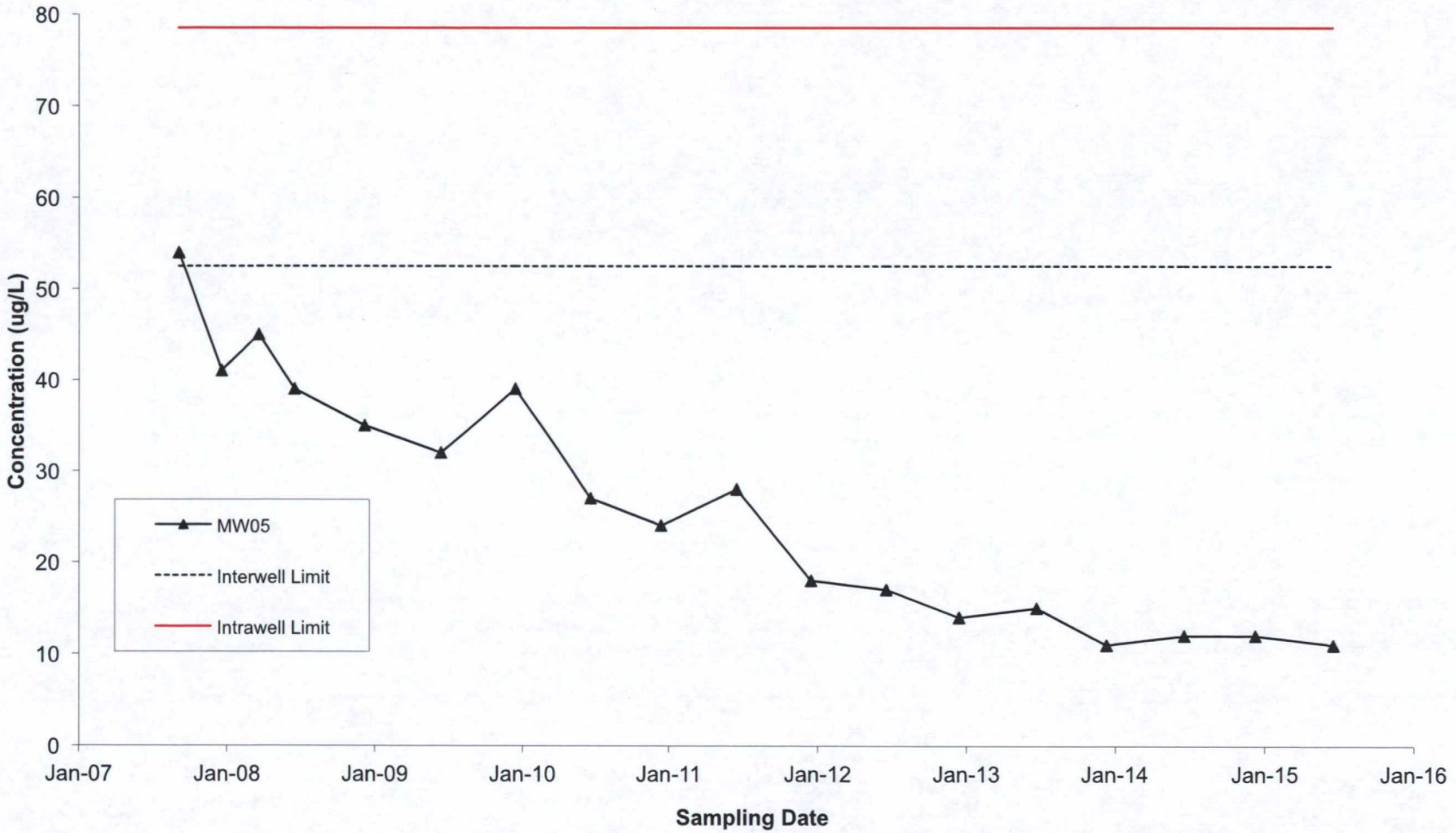
## Vinyl Chloride in Well MW04
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



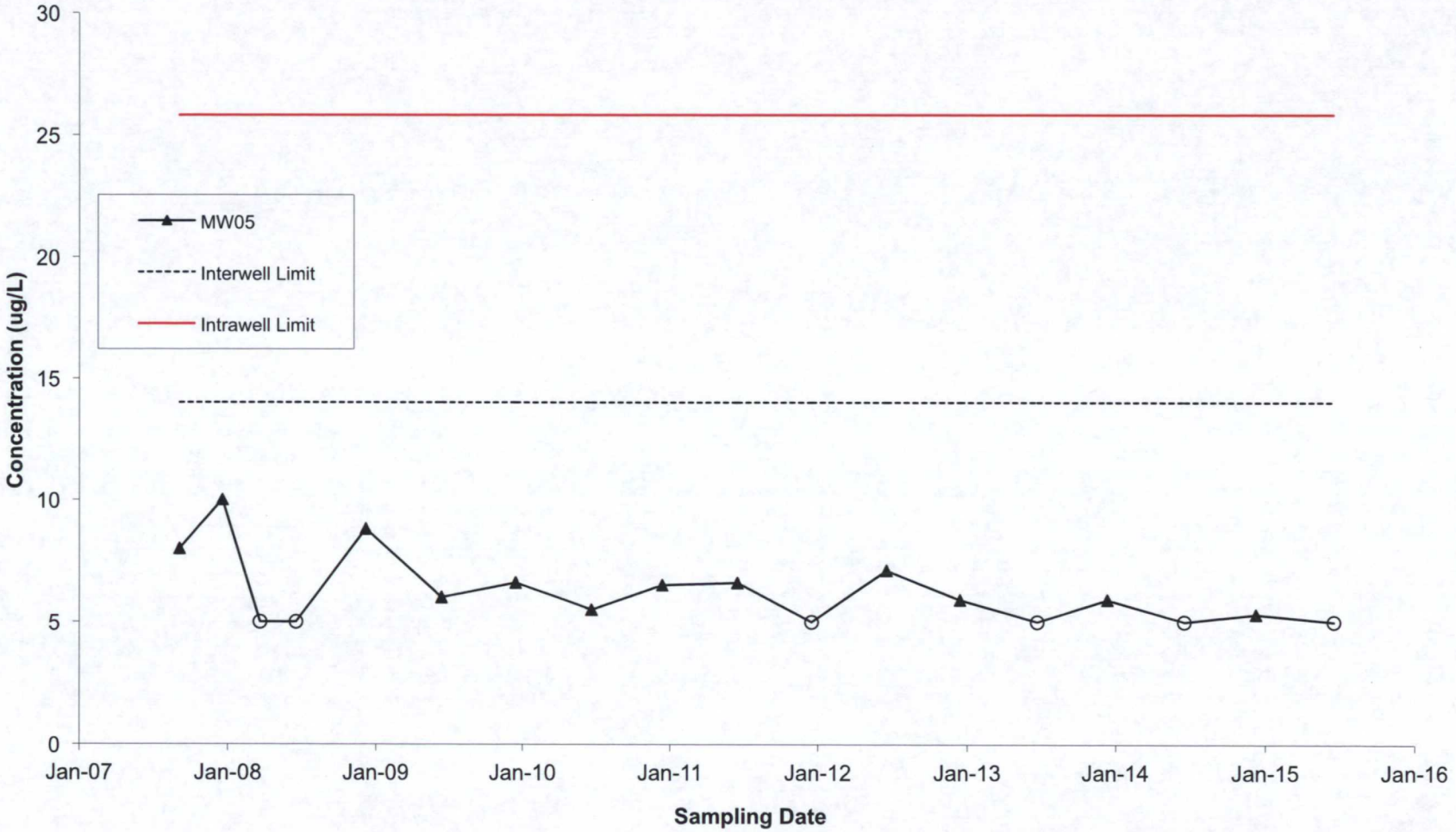
## 1,1,1-Trichloroethane in Well MW05
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



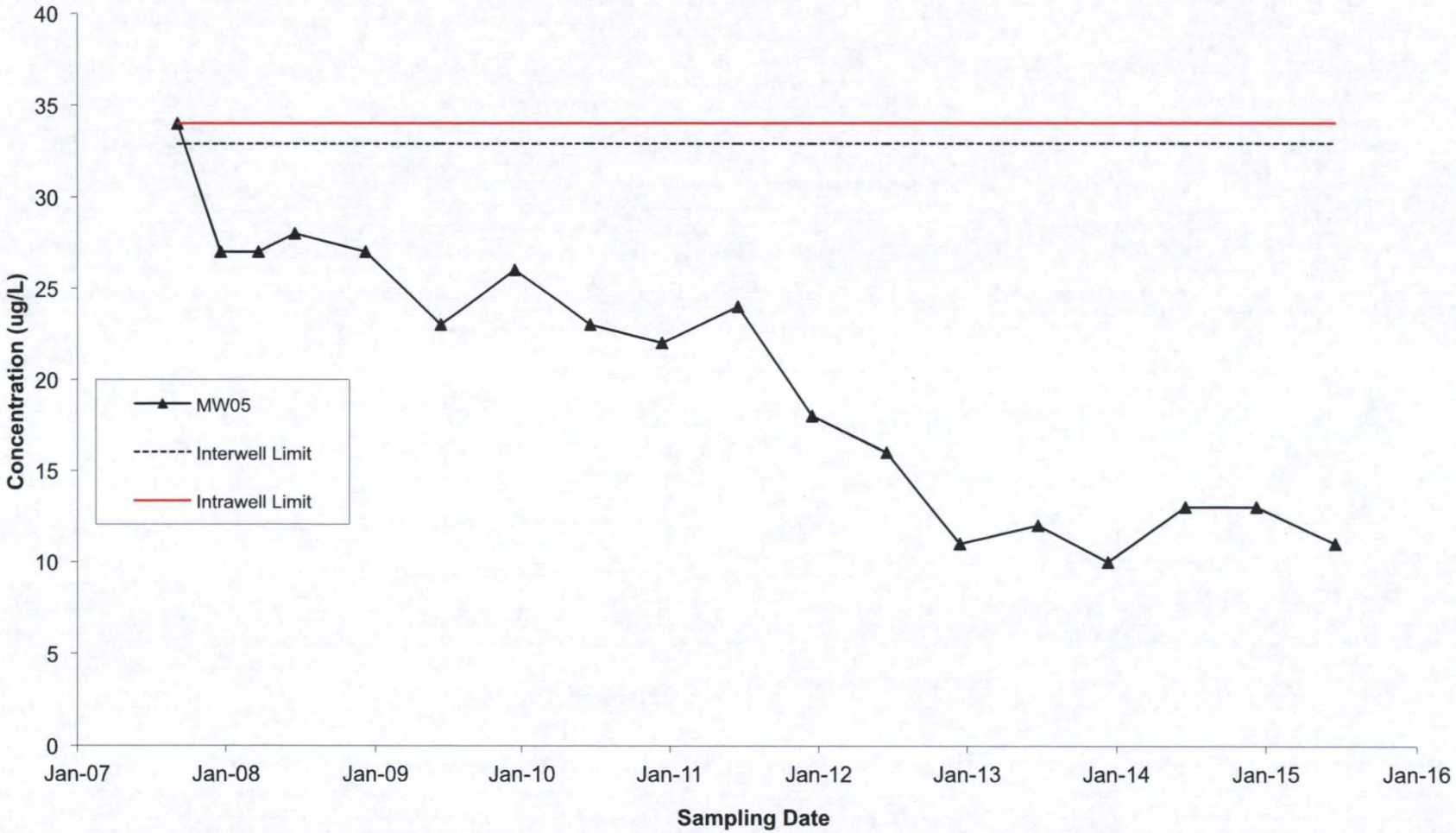
## 1,1-Dichloroethane in Well MW05
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



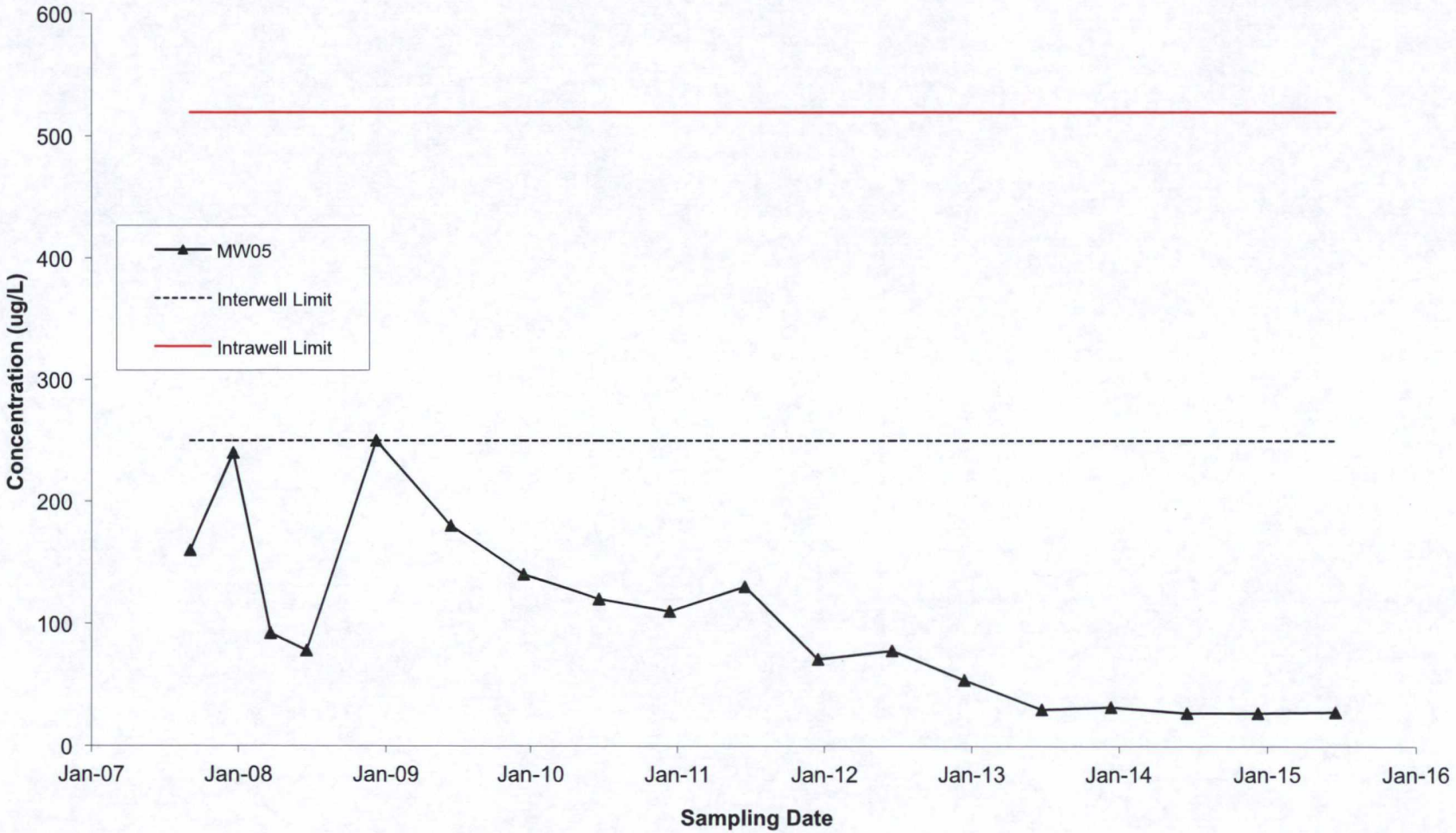
## 1,1-Dichloroethene in Well MW05
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



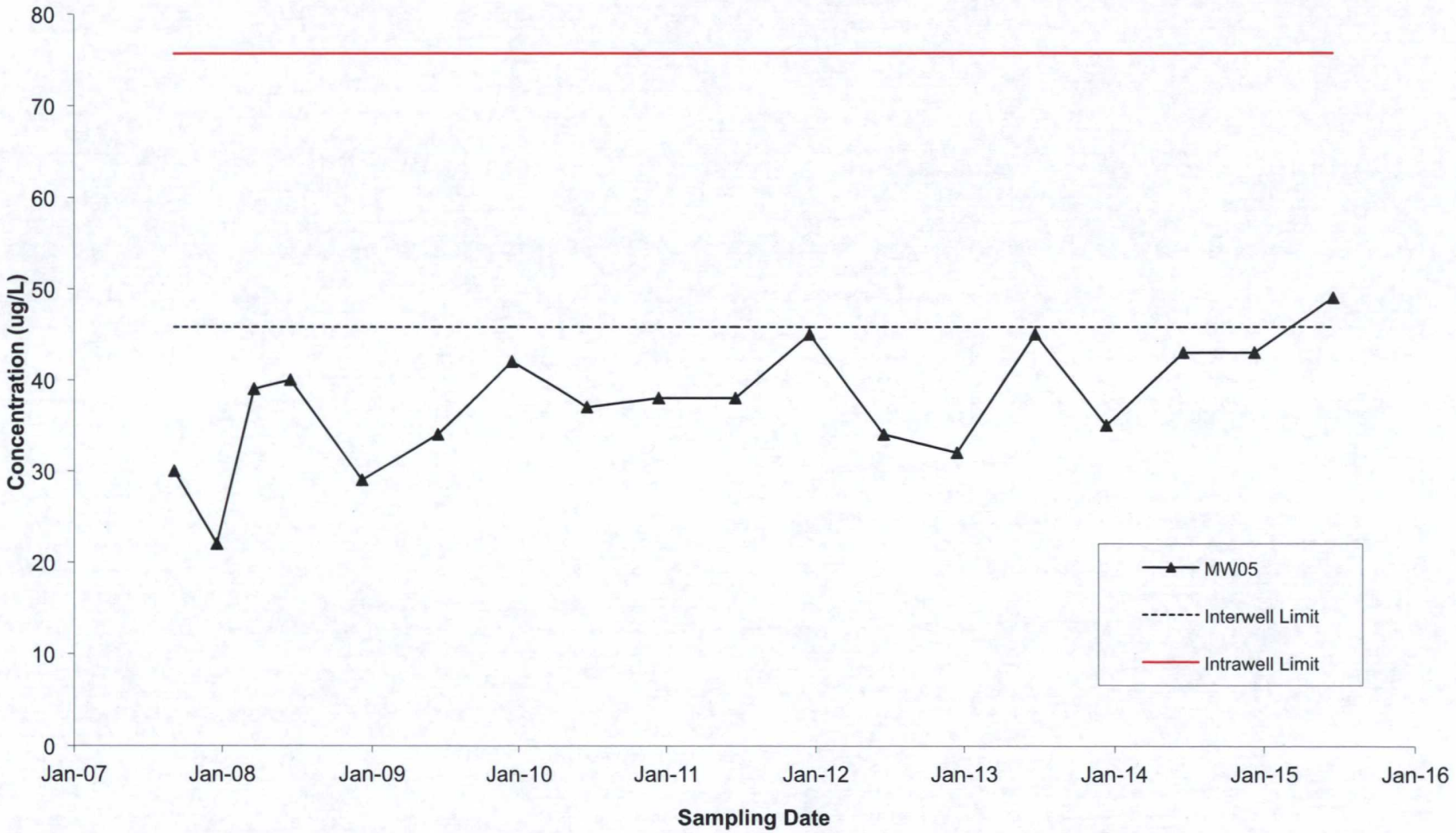
## cis-1,2-Dichloroethene in Well MW05
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



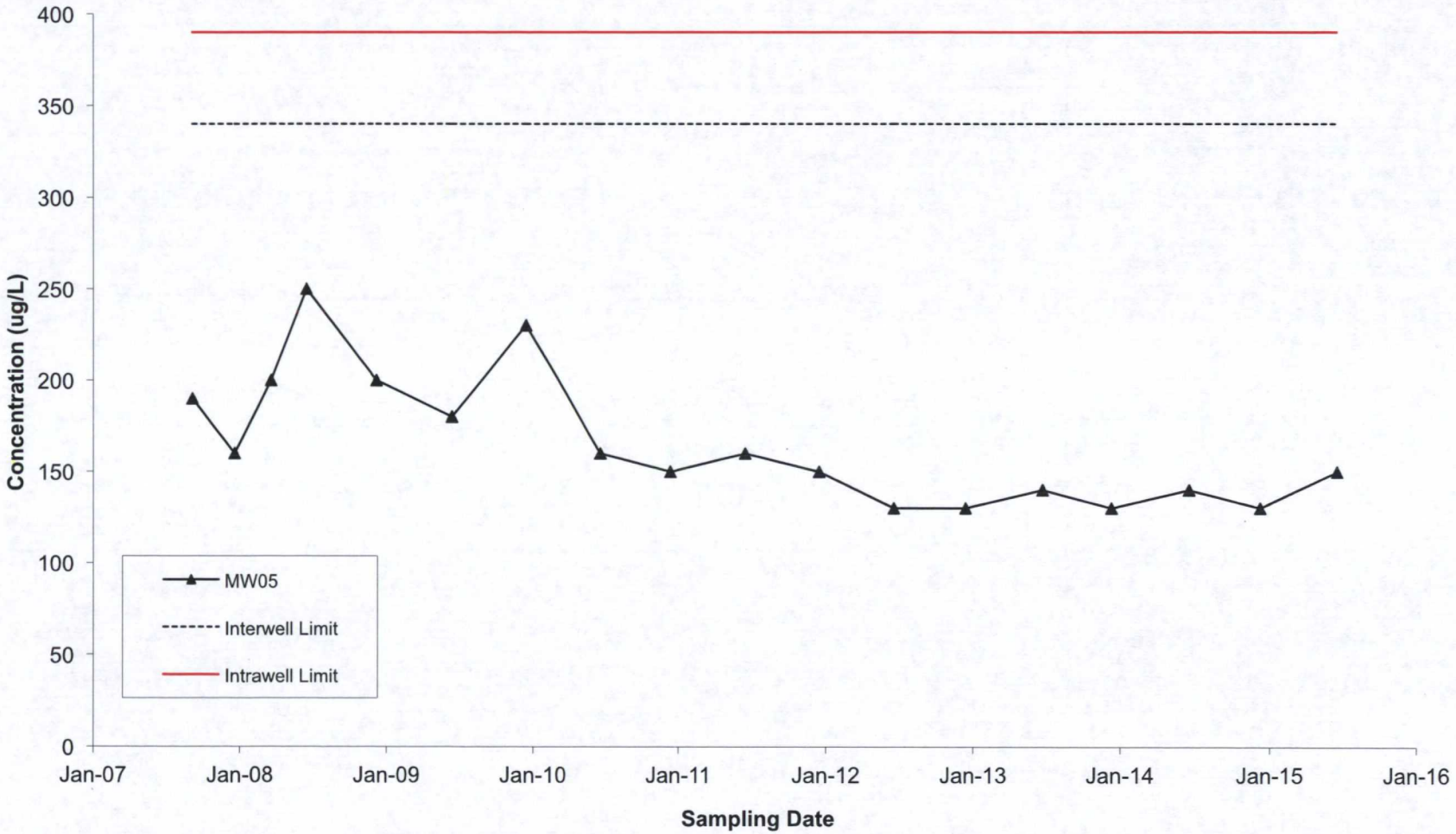
**Tetrachloroethene in Well MW05**
**IPC/Roto-Rooter Landfill**

Note: Non-detects are marked with a clear circle.



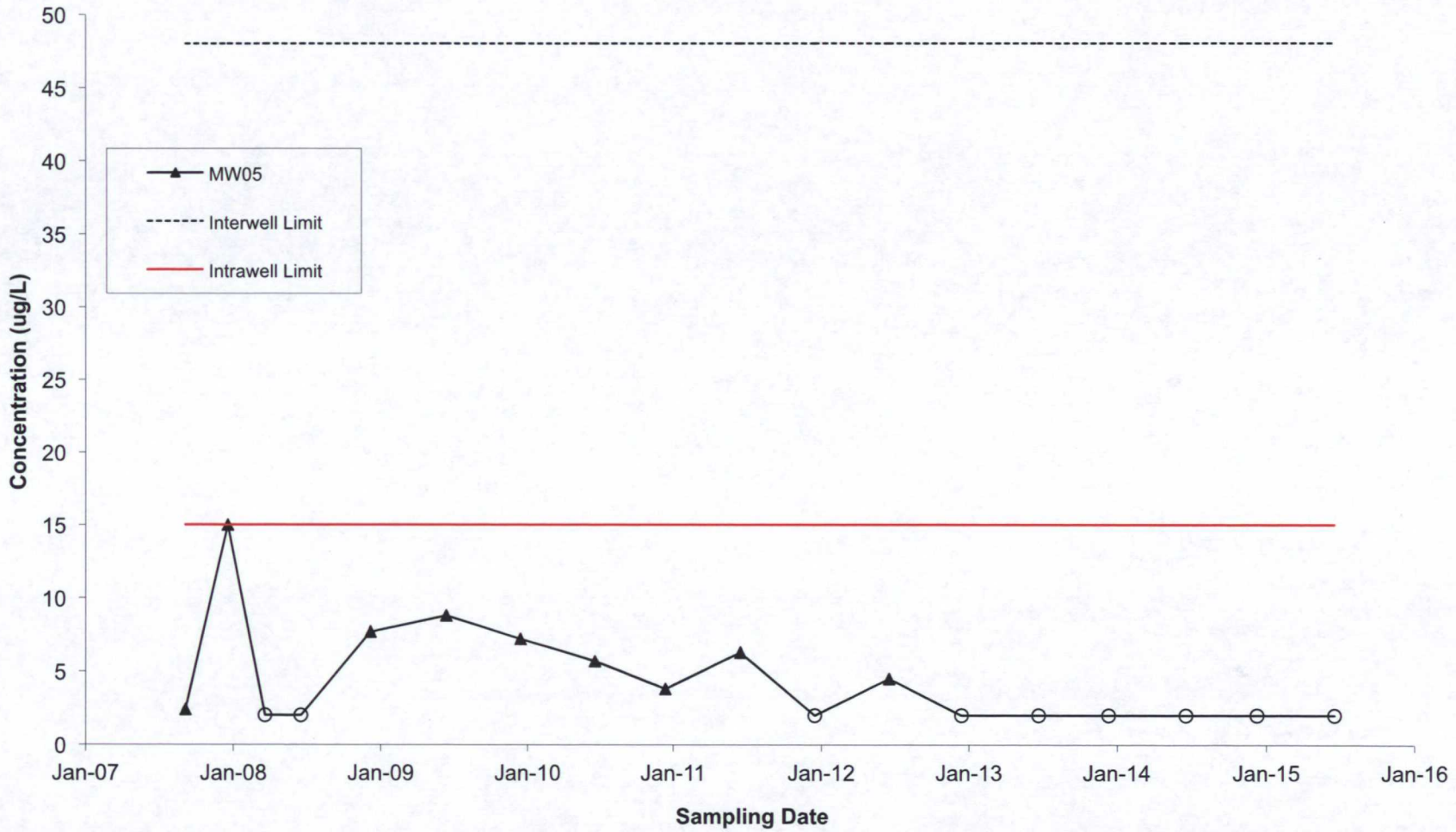
## Trichloroethene in Well MW05
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



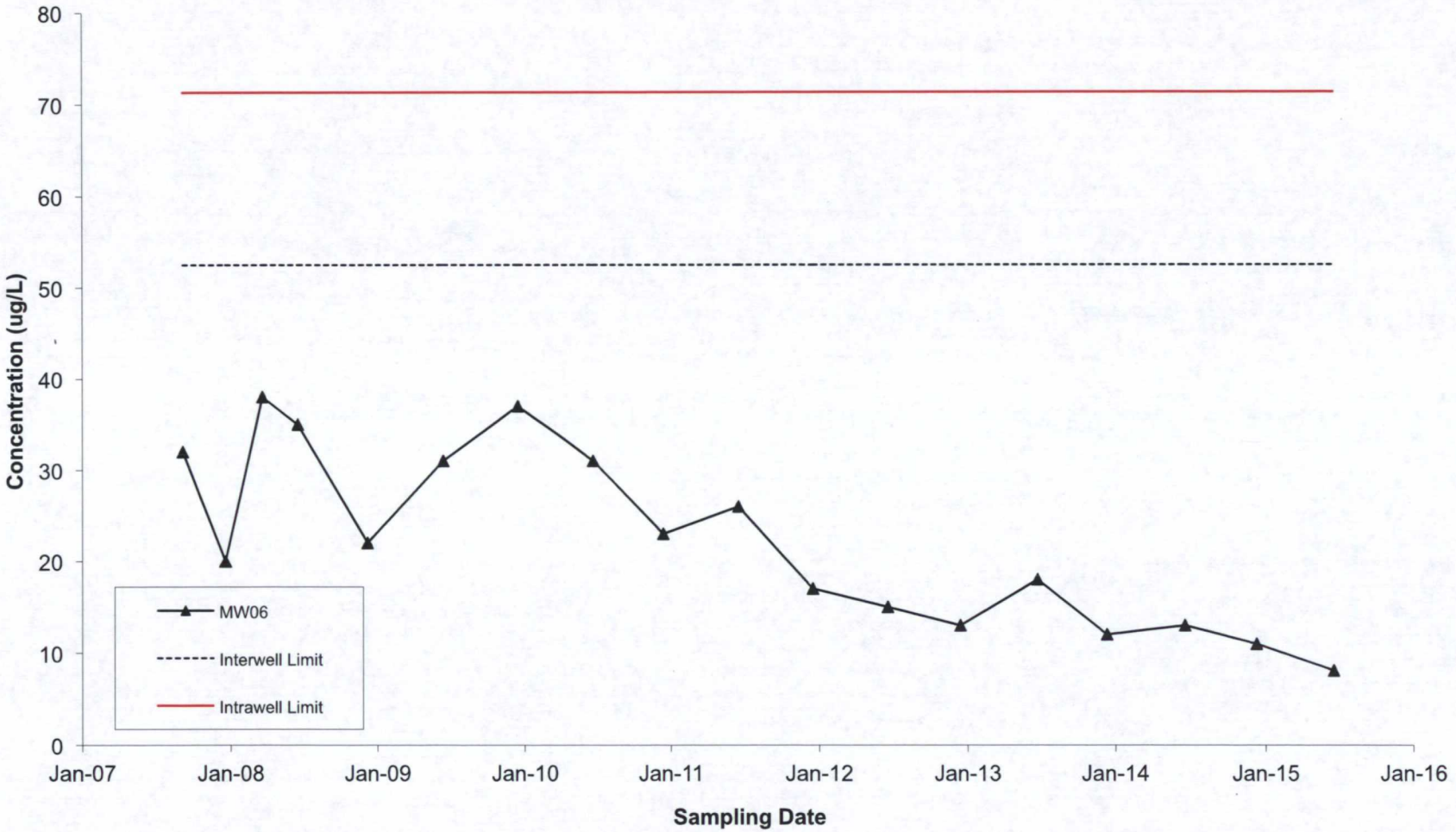
## Vinyl Chloride in Well MW05
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



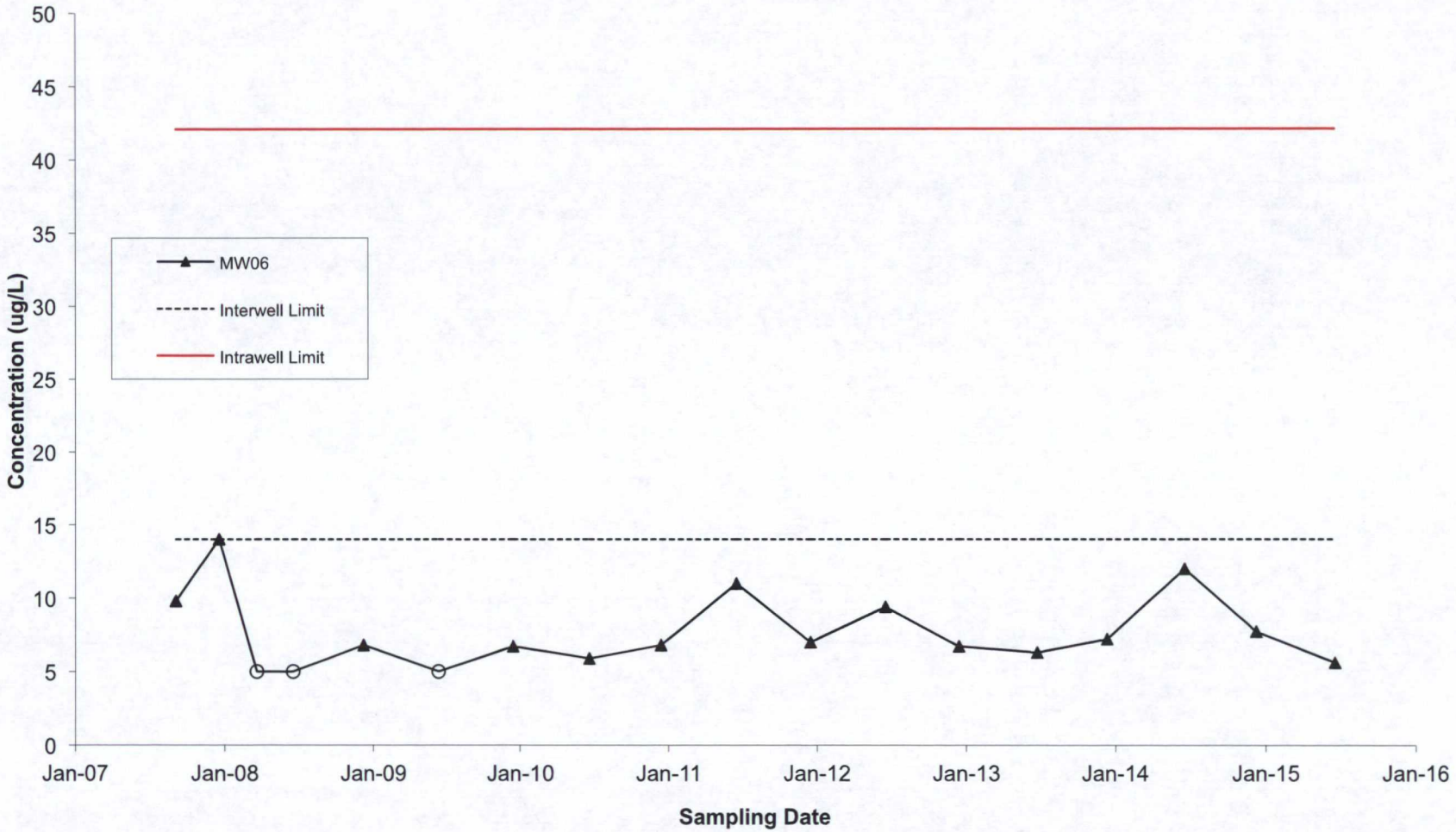
## 1,1,1-Trichloroethane in Well MW06
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



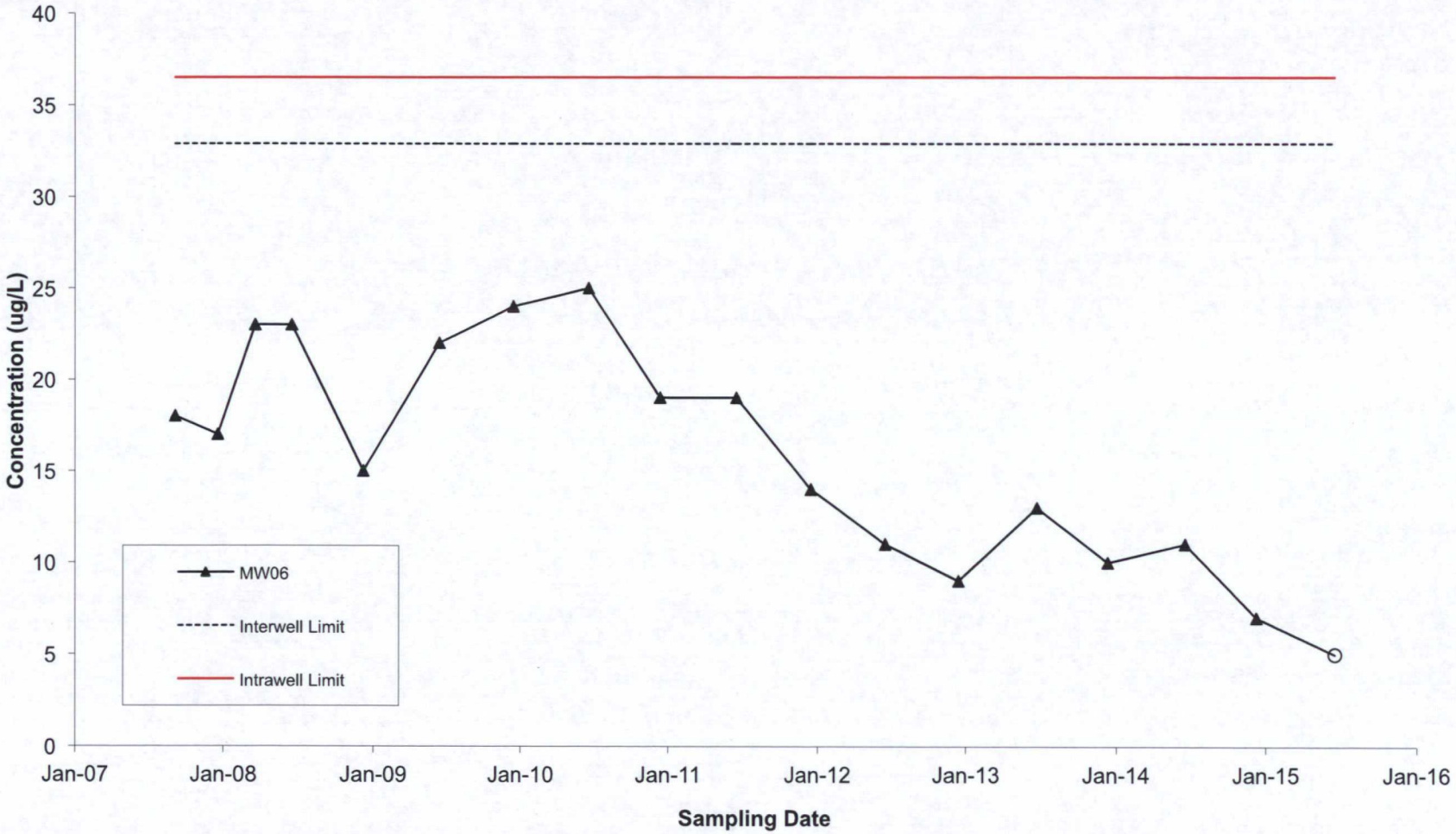
## 1,1-Dichloroethane in Well MW06
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



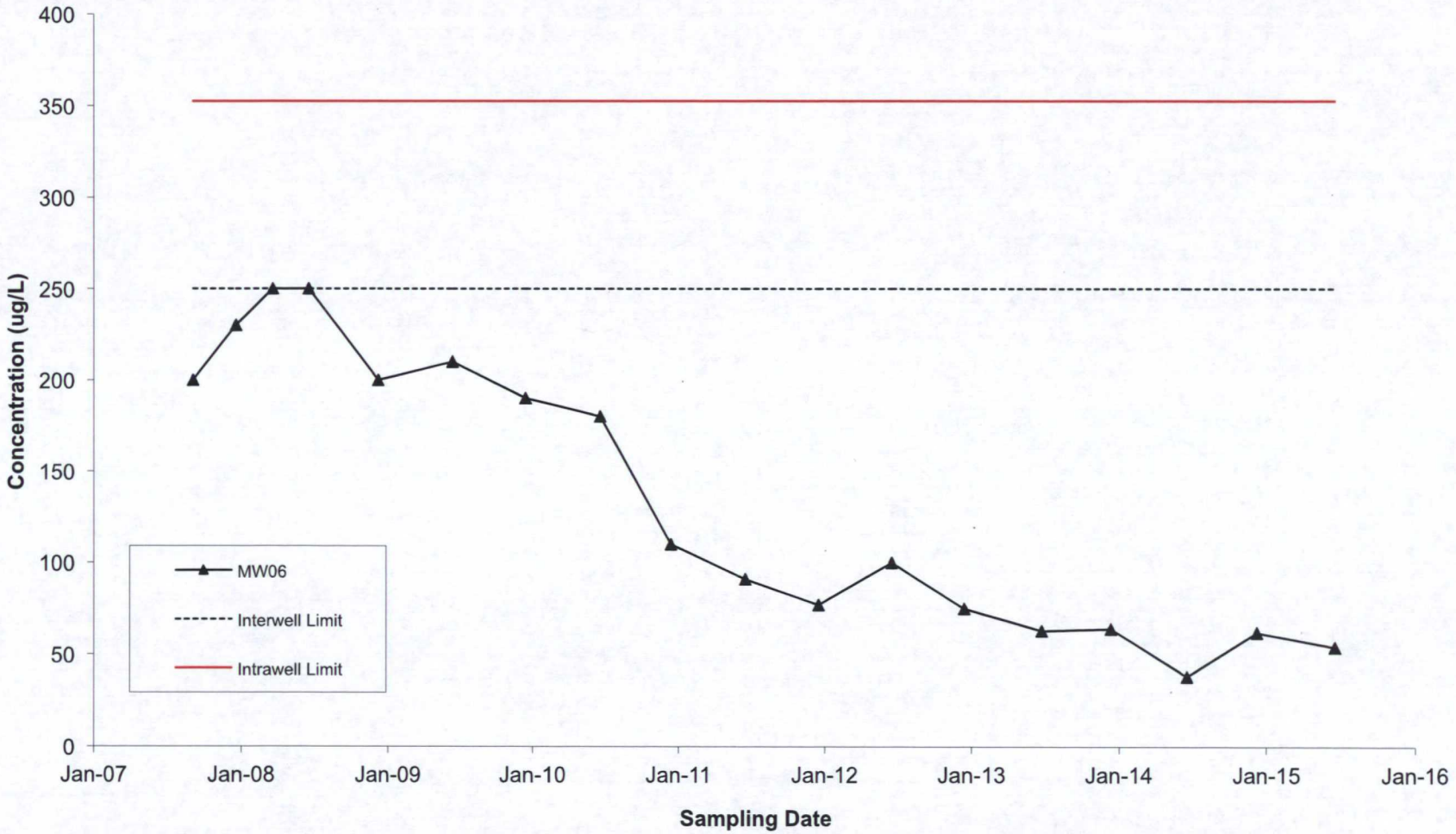
## 1,1-Dichloroethene in Well MW06
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



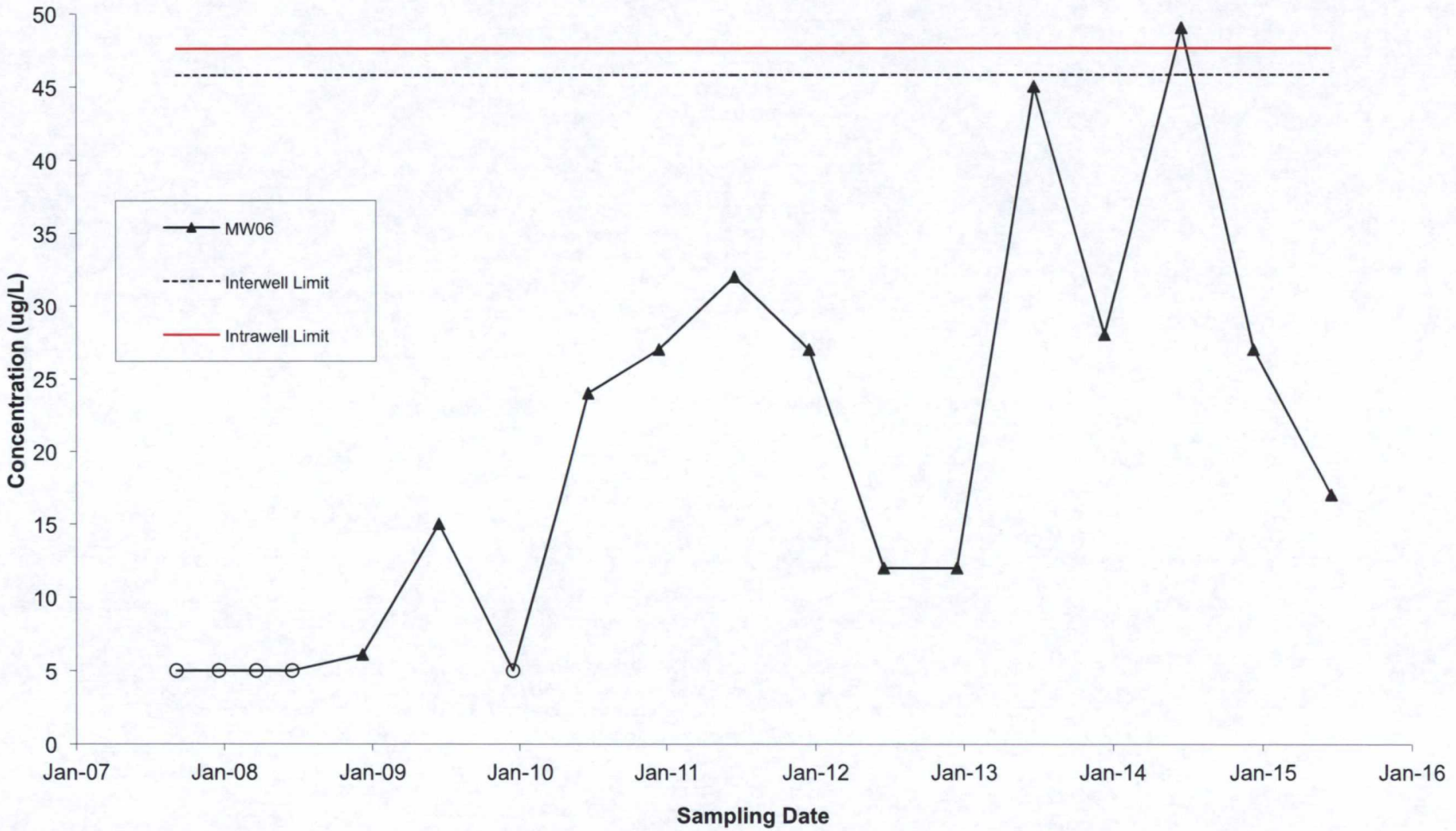
## cis-1,2-Dichloroethene in Well MW06
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



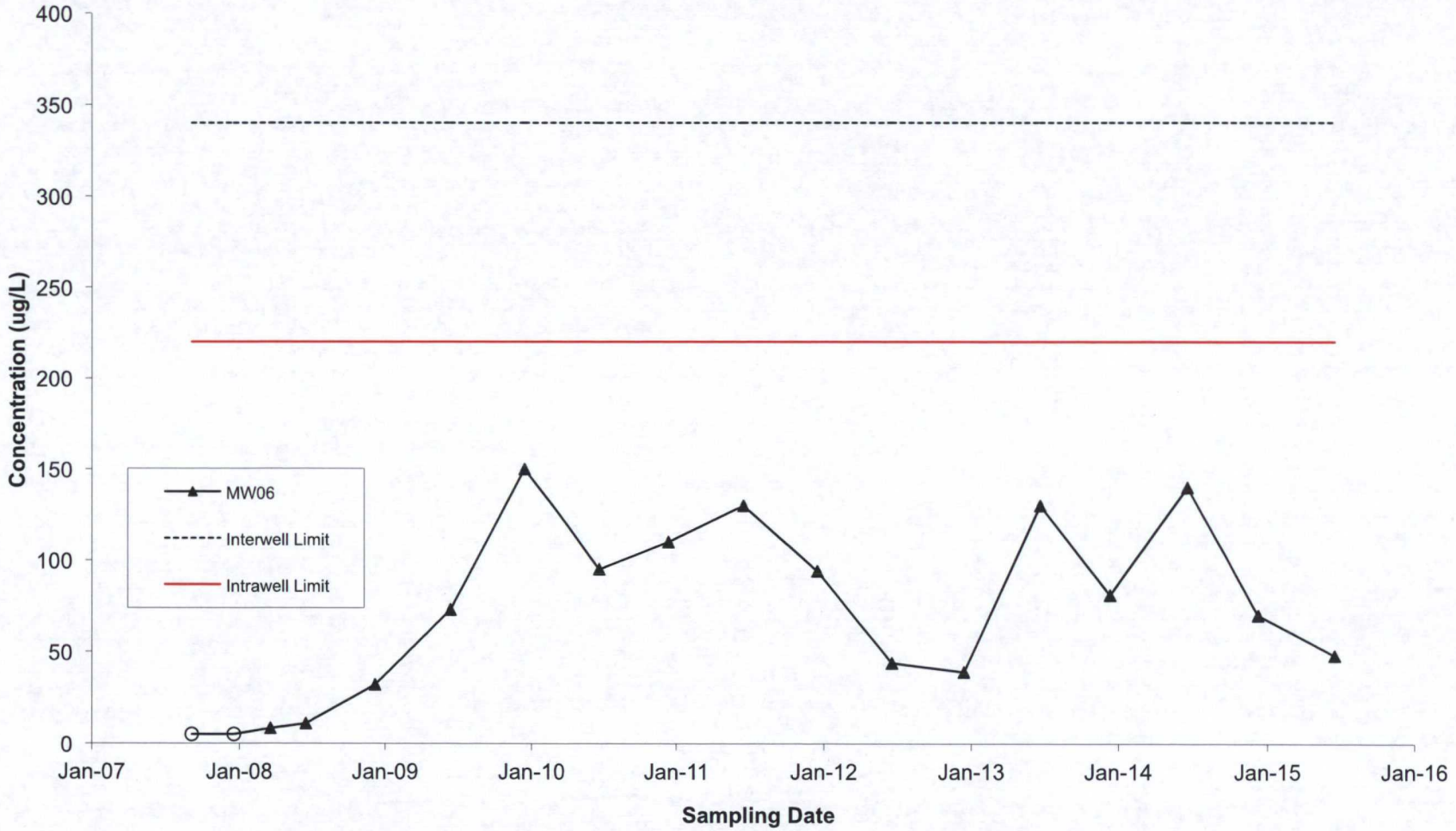
## Tetrachloroethene in Well MW06
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



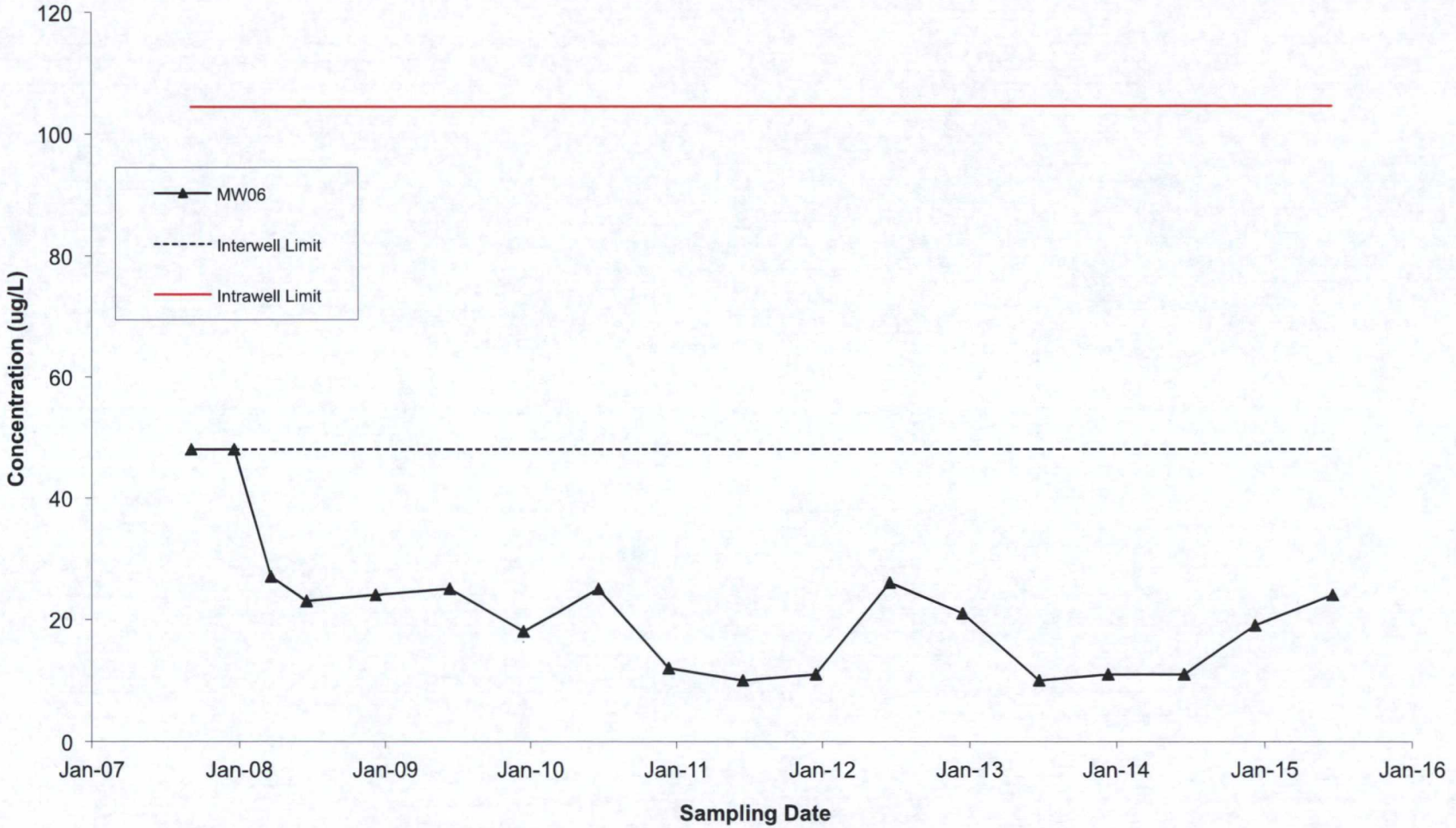
## Trichloroethene in Well MW06
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



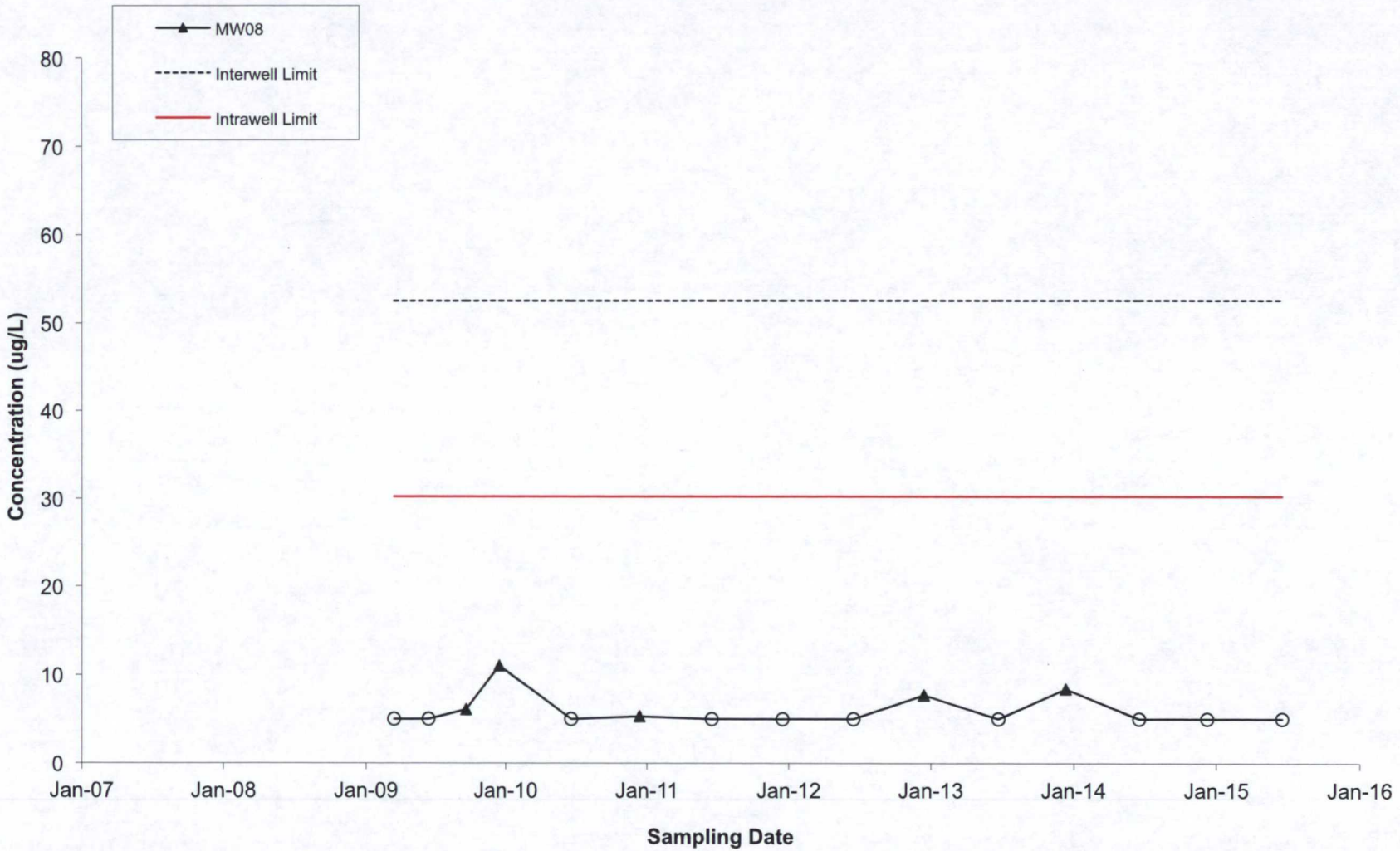
## Vinyl Chloride in Well MW06
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



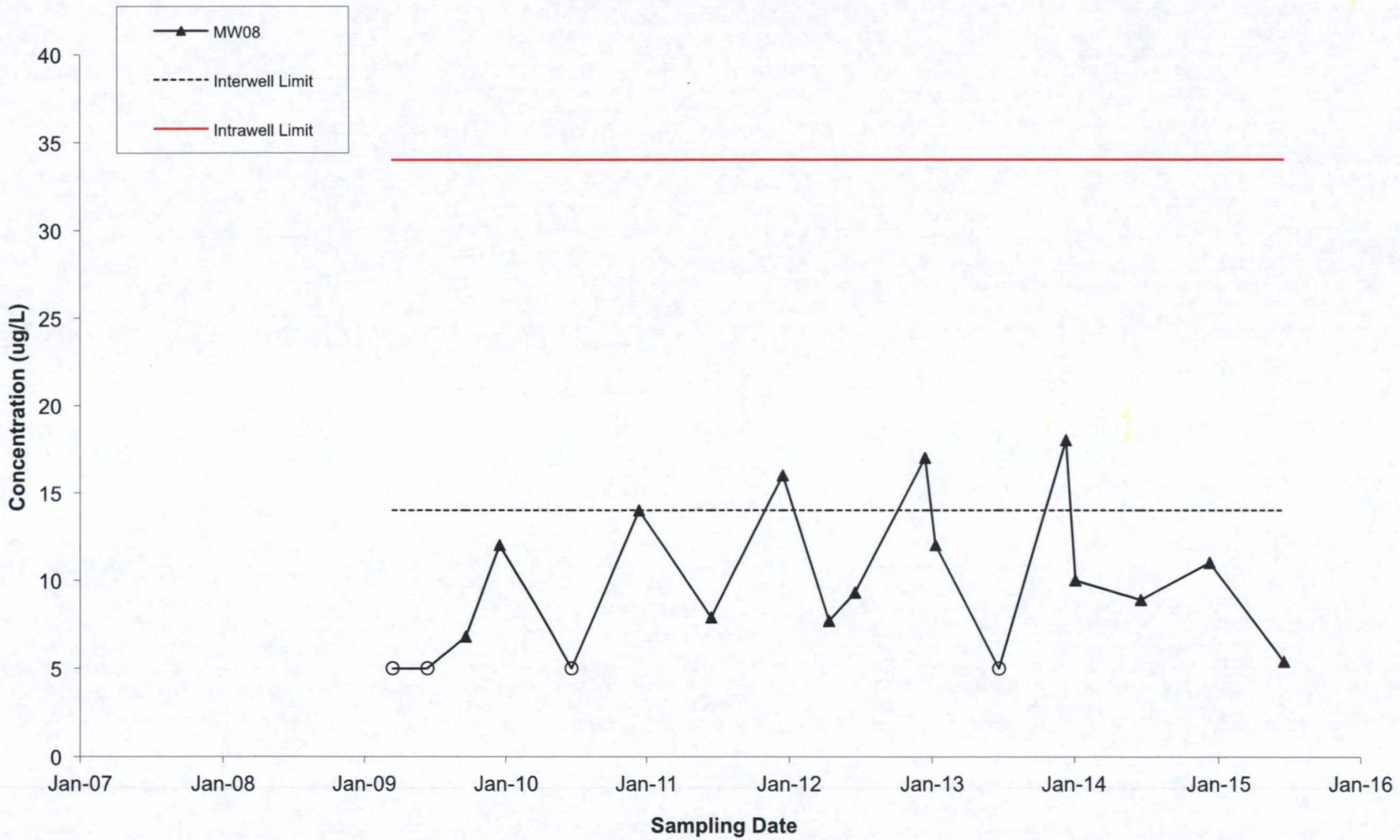
## 1,1,1-Trichloroethane in Well MW08
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



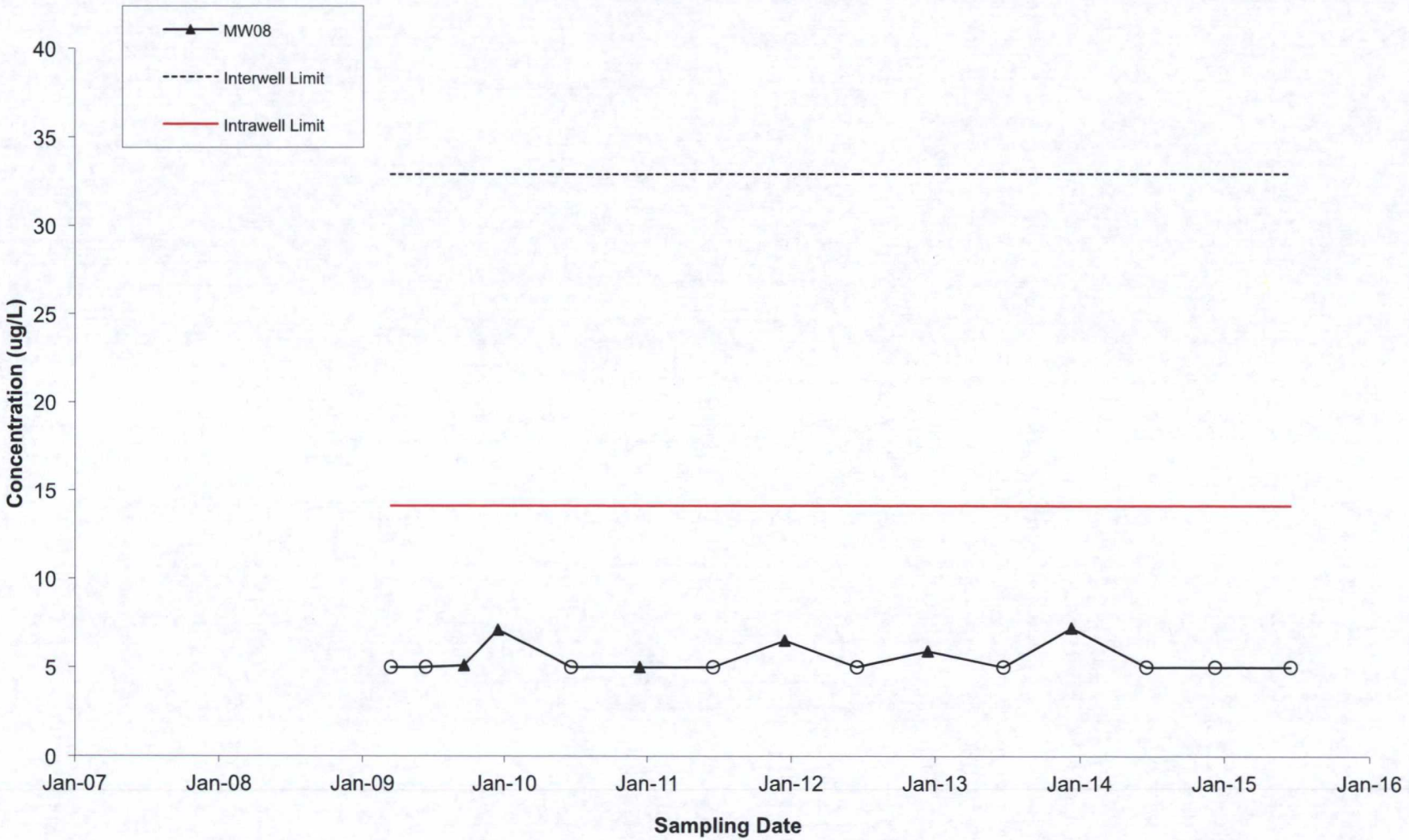
## 1,1-Dichloroethane in Well MW08
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



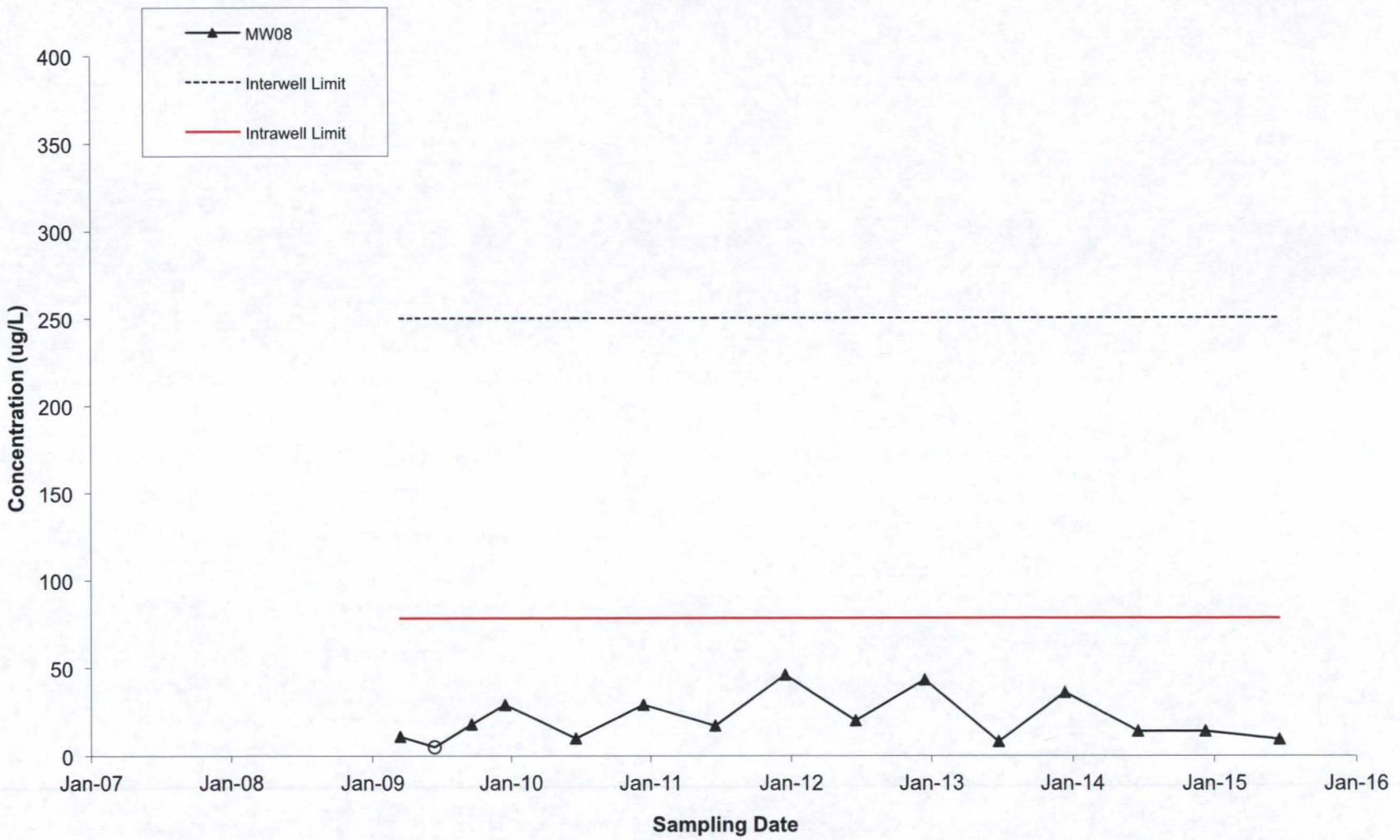
## 1,1-Dichloroethene in Well MW08
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



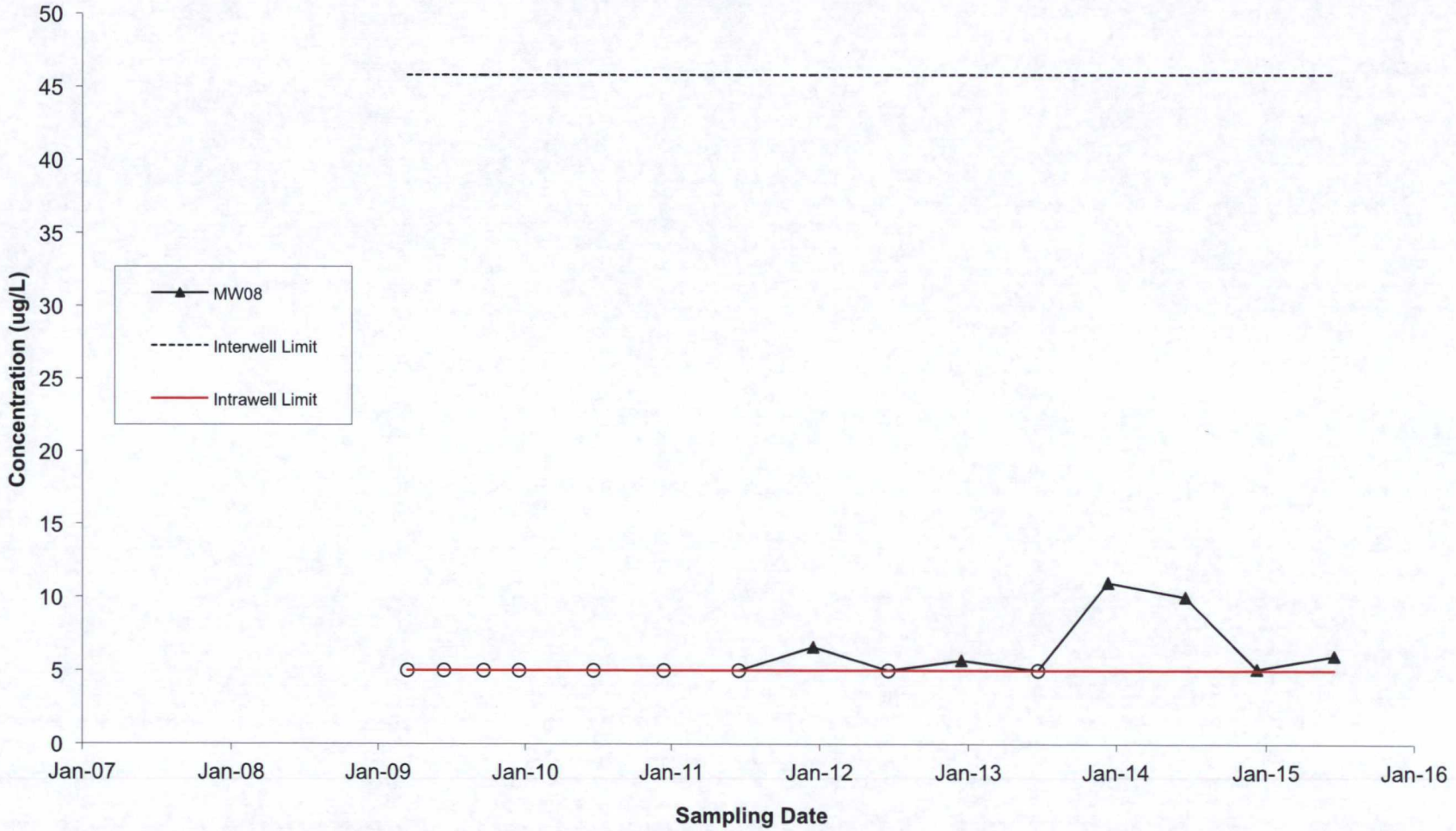
## cis-1,2-Dichloroethene in Well MW08
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



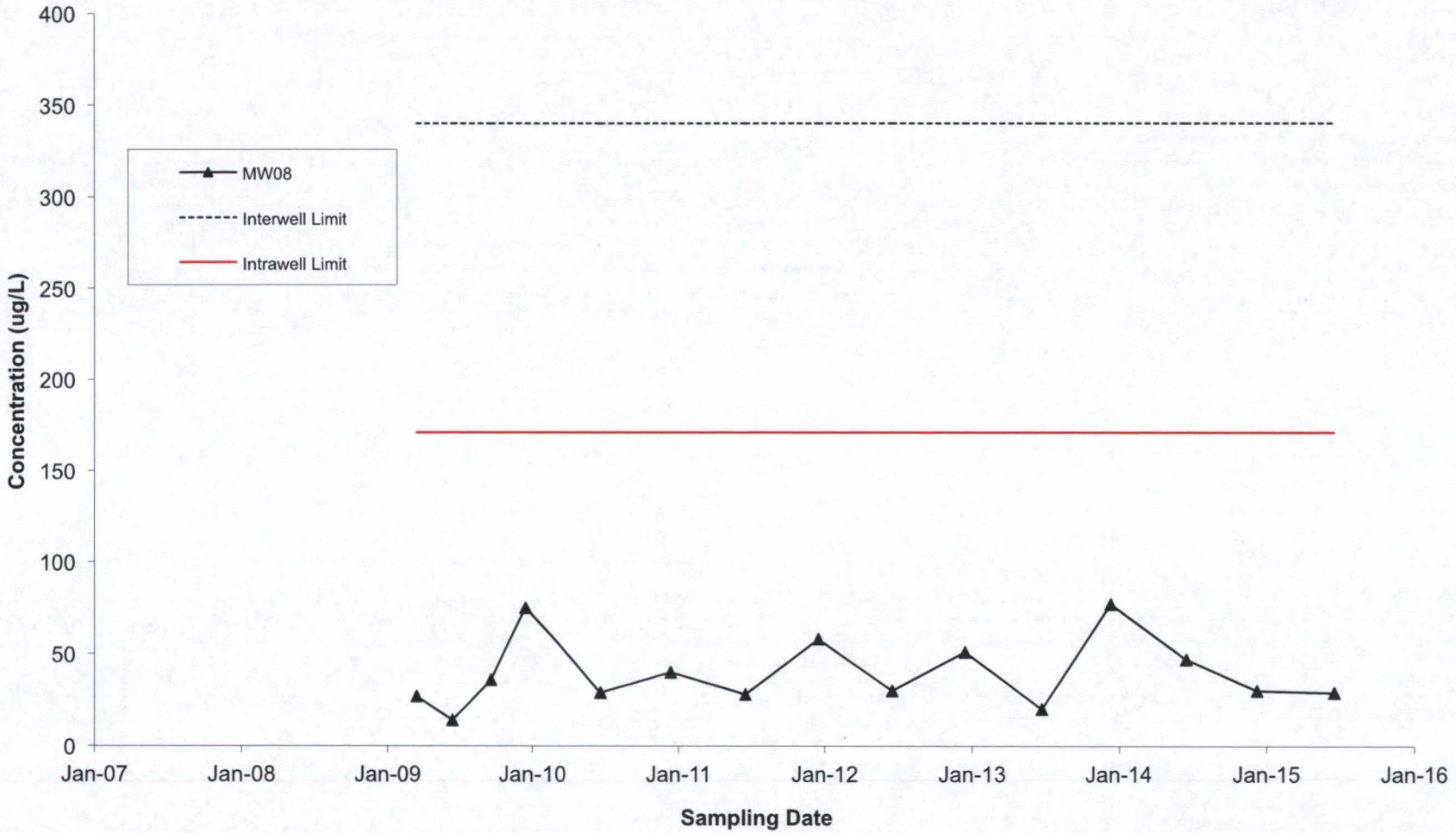
## Tetrachloroethene in Well MW08
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



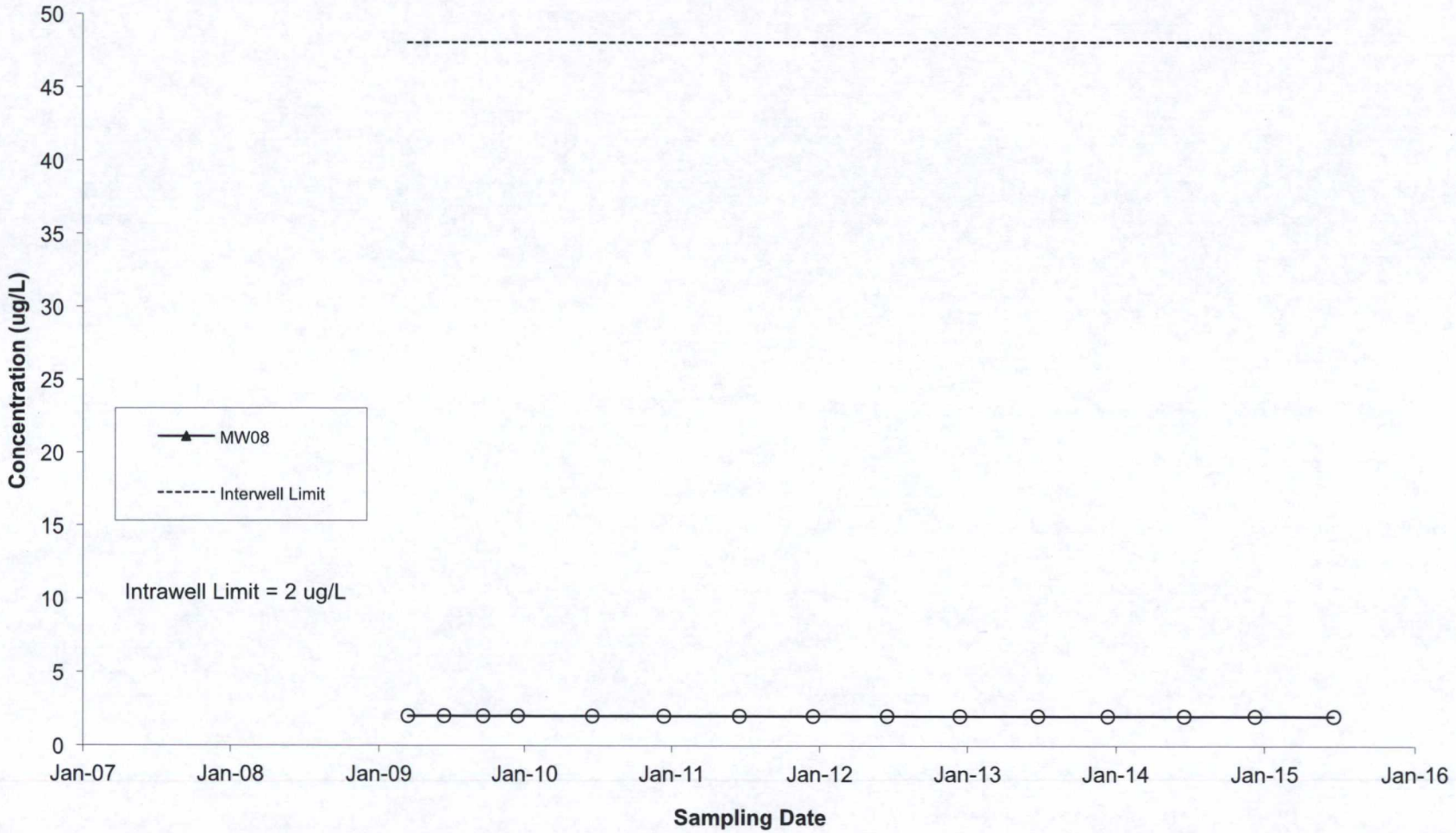
## Trichloroethene in Well MW08
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



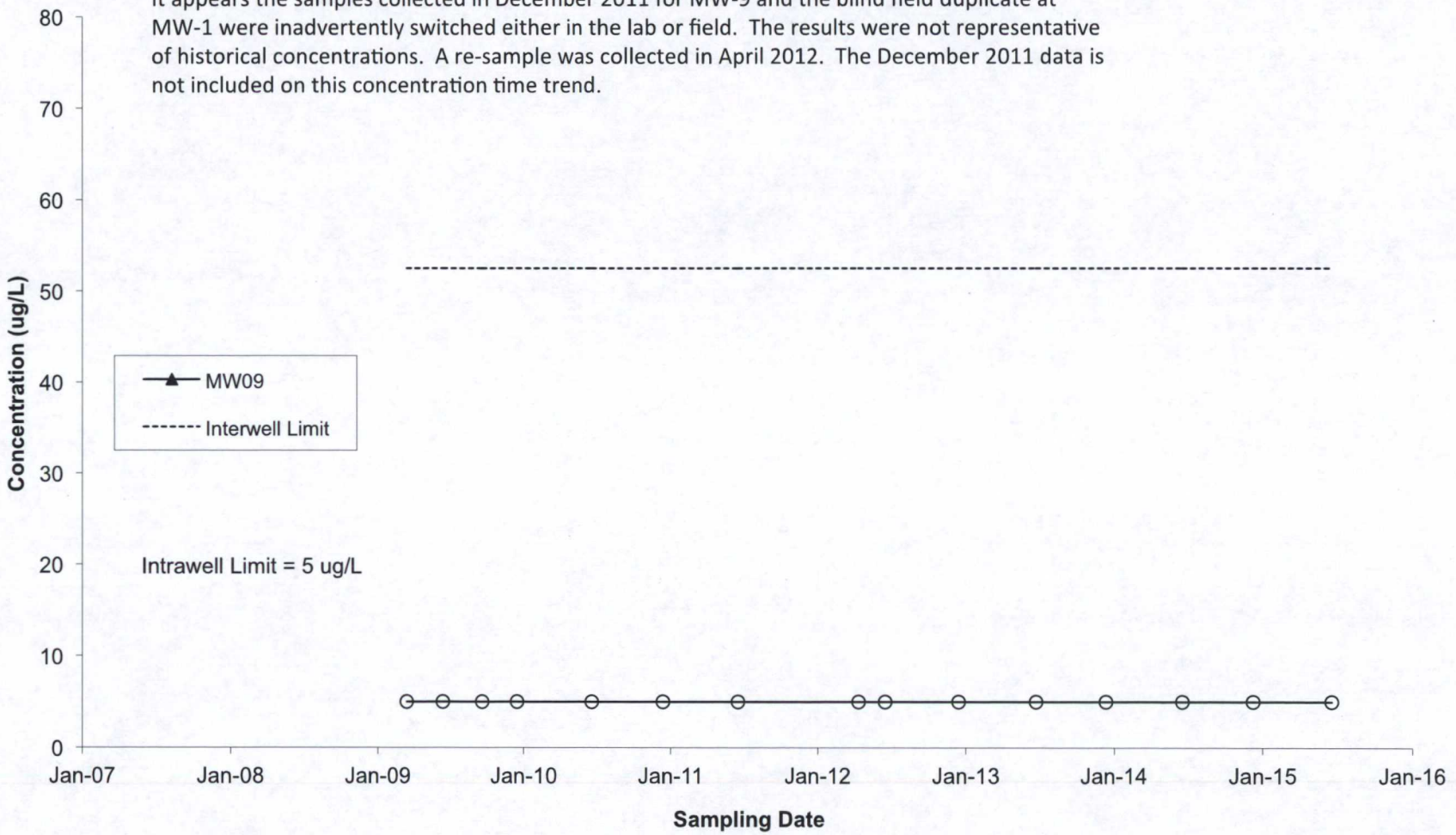
## Vinyl Chloride in Well MW08
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



## 1,1,1-Trichloroethane in Well MW09
## IPC/Roto-Rooter Landfill

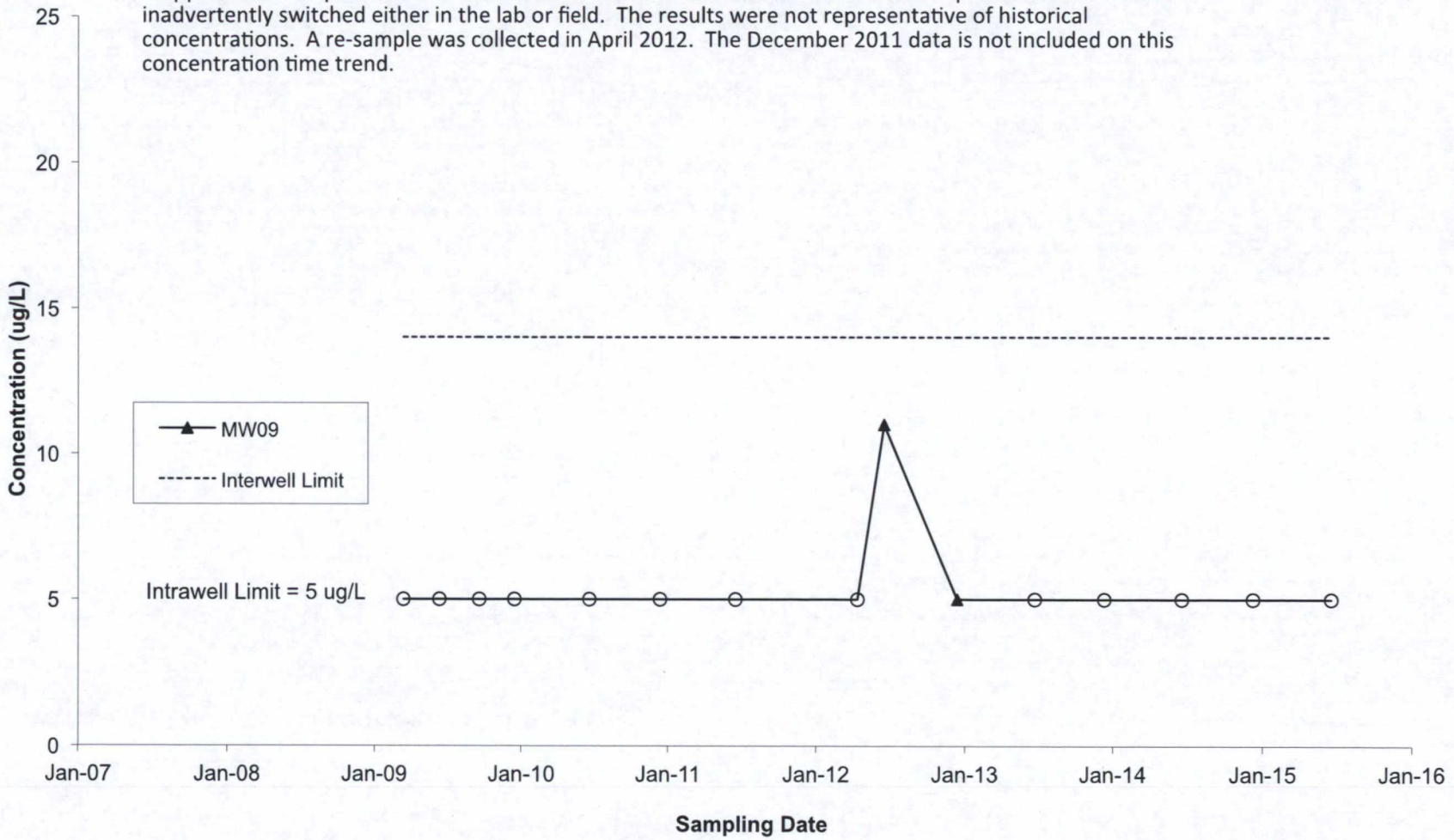
Note: Non-detects are marked with a clear circle.



## 1,1-Dichloroethane in Well MW09
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.

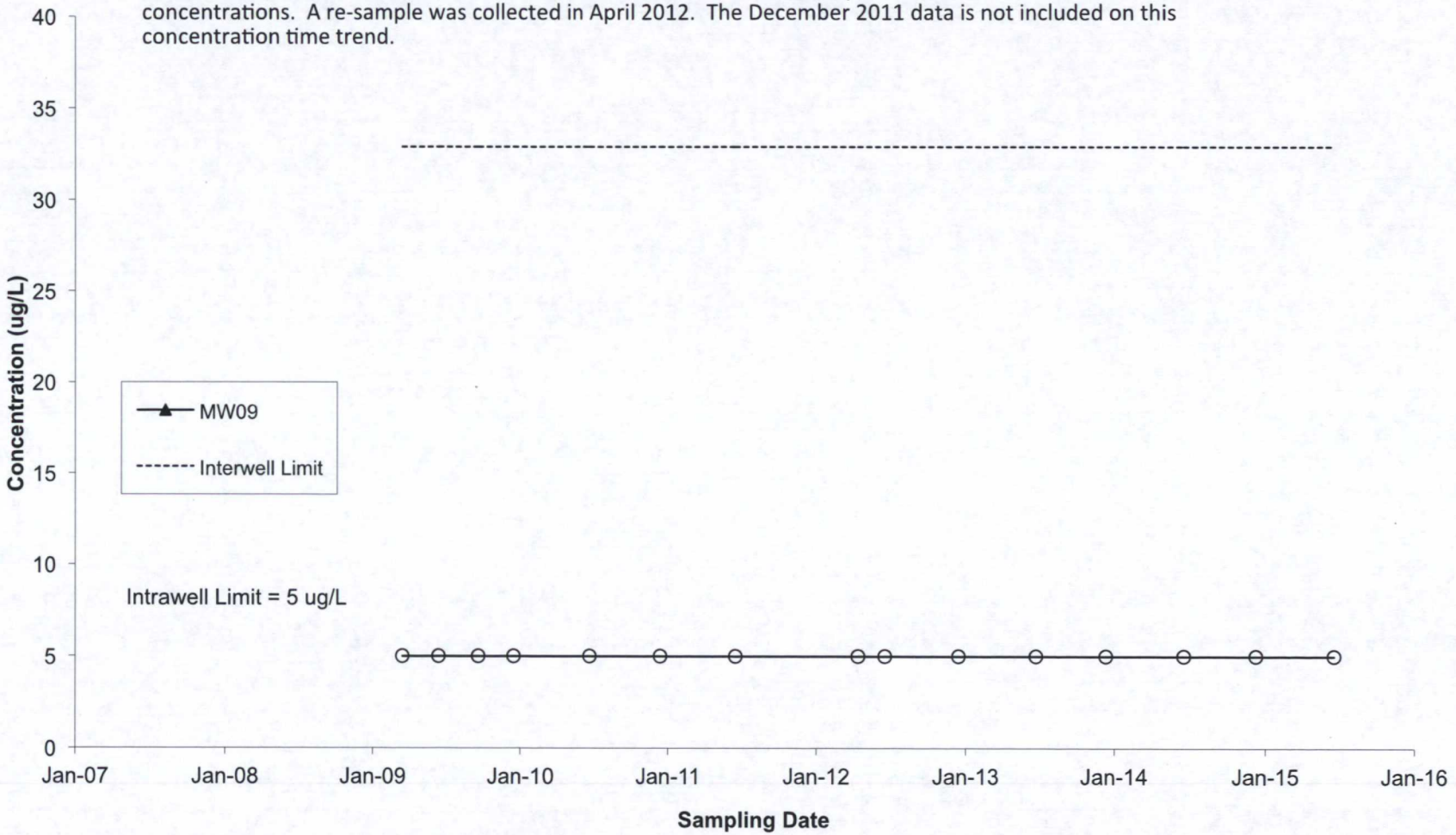
It appears the samples collected in December 2011 for MW-9 and the blind field duplicate at MW-1 were inadvertently switched either in the lab or field. The results were not representative of historical concentrations. A re-sample was collected in April 2012. The December 2011 data is not included on this concentration time trend.



## 1,1-Dichloroethene in Well MW09
## IPC/Roto-Rooter Landfill

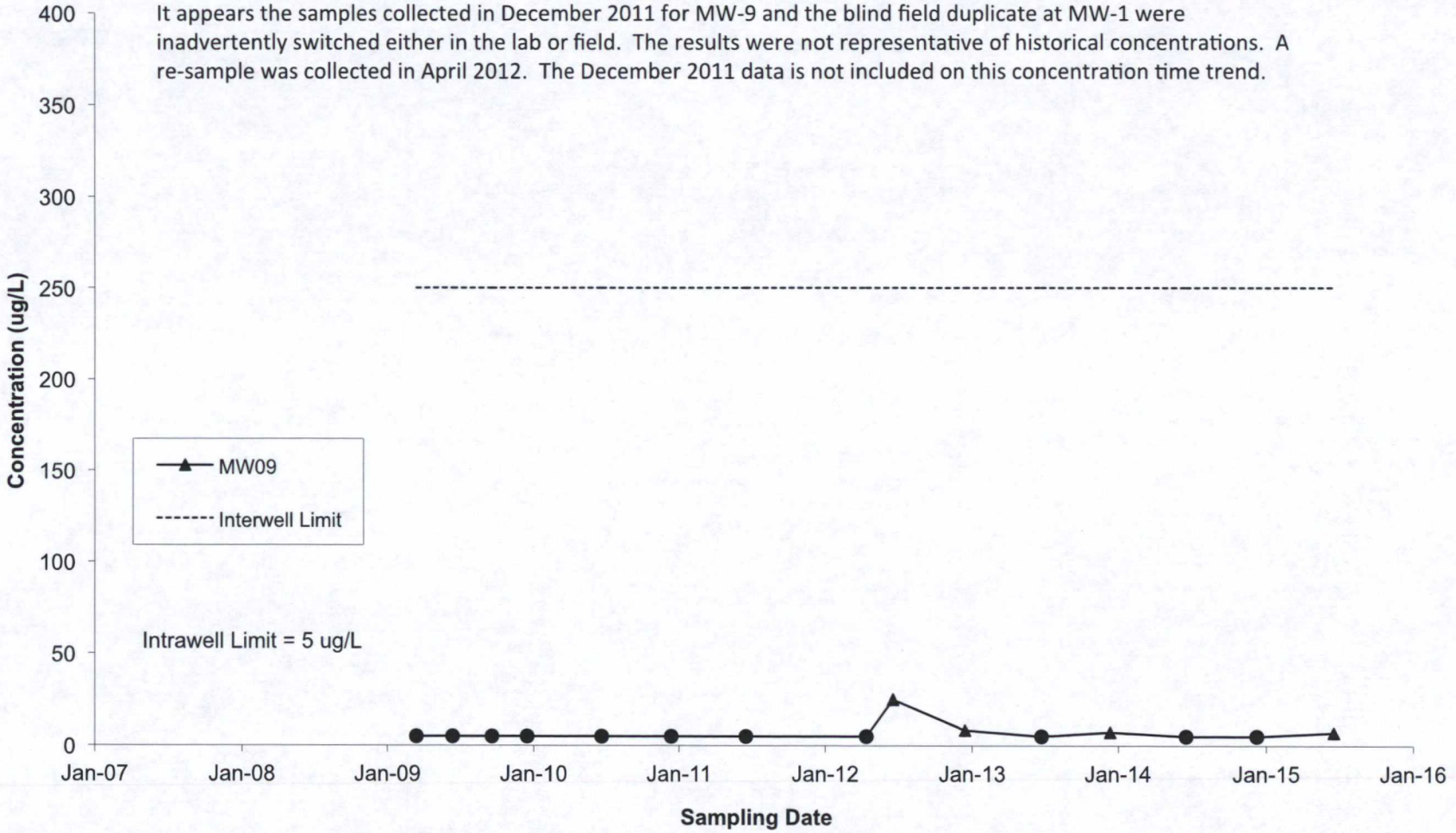
Note: Non-detects are marked with a clear circle.

It appears the samples collected in December 2011 for MW-9 and the blind field duplicate at MW-1 were inadvertently switched either in the lab or field. The results were not representative of historical concentrations. A re-sample was collected in April 2012. The December 2011 data is not included on this concentration time trend.



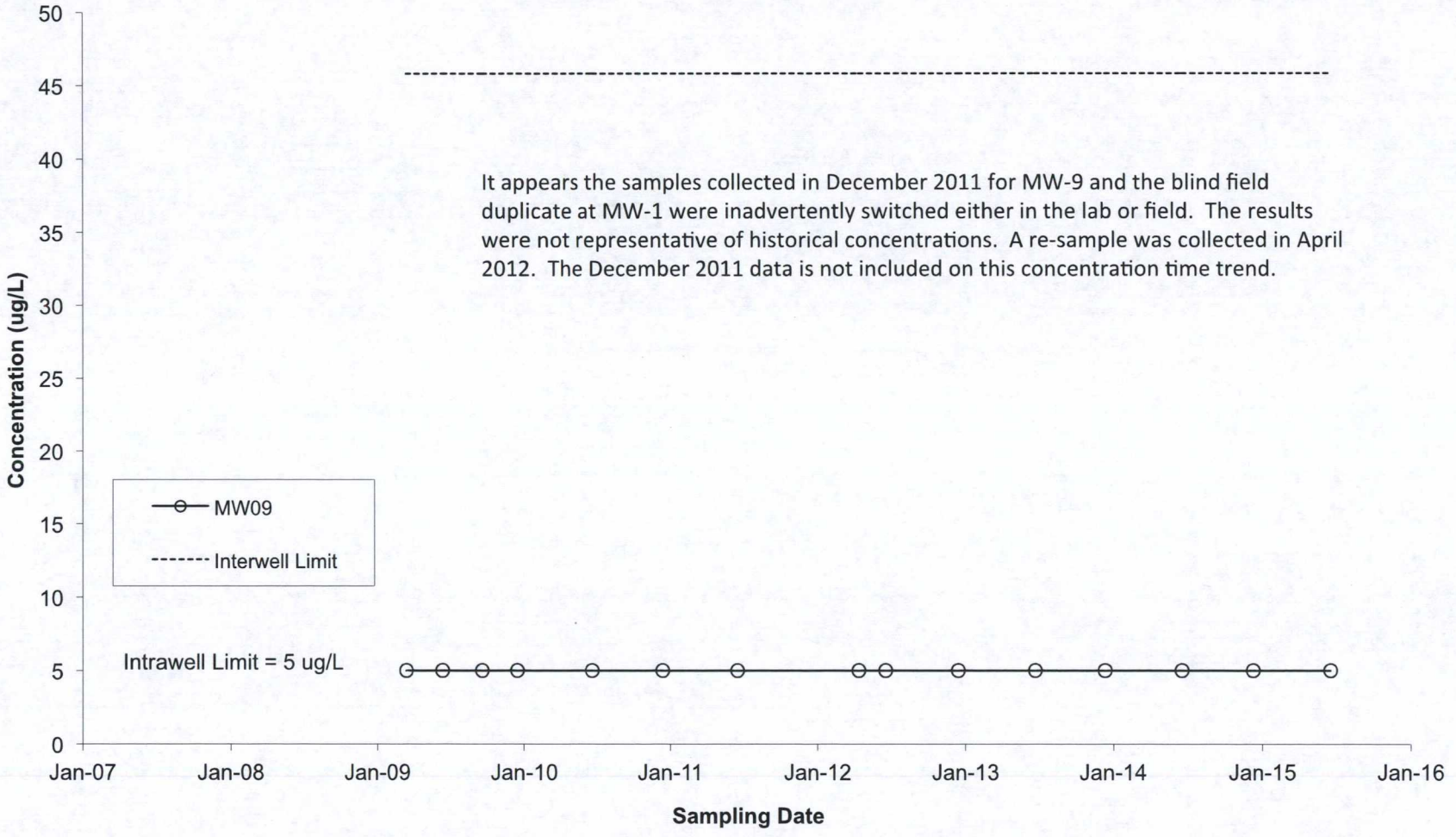
## cis-1,2-Dichloroethene in Well MW09
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



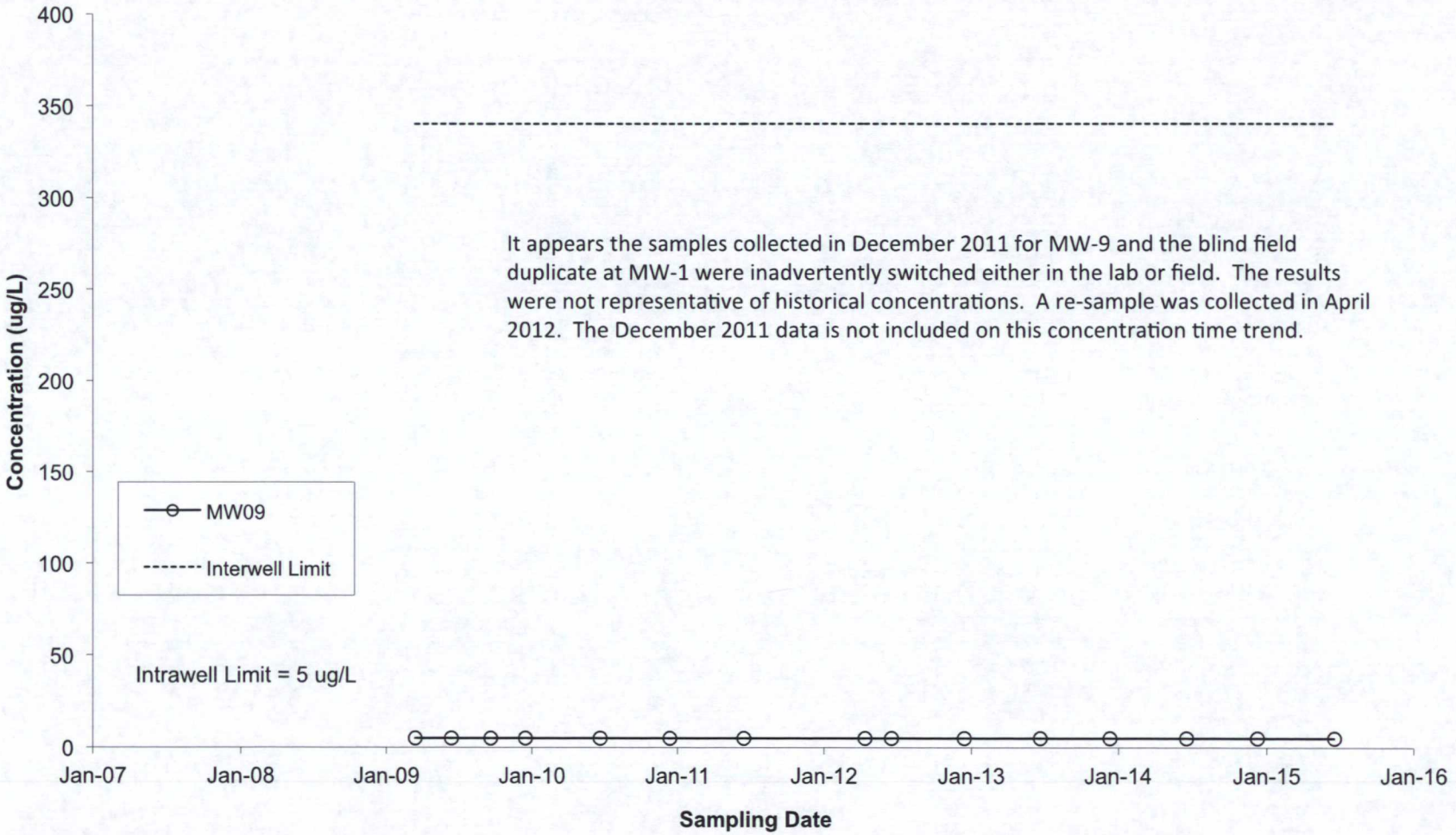
## Tetrachloroethene in Well MW09
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



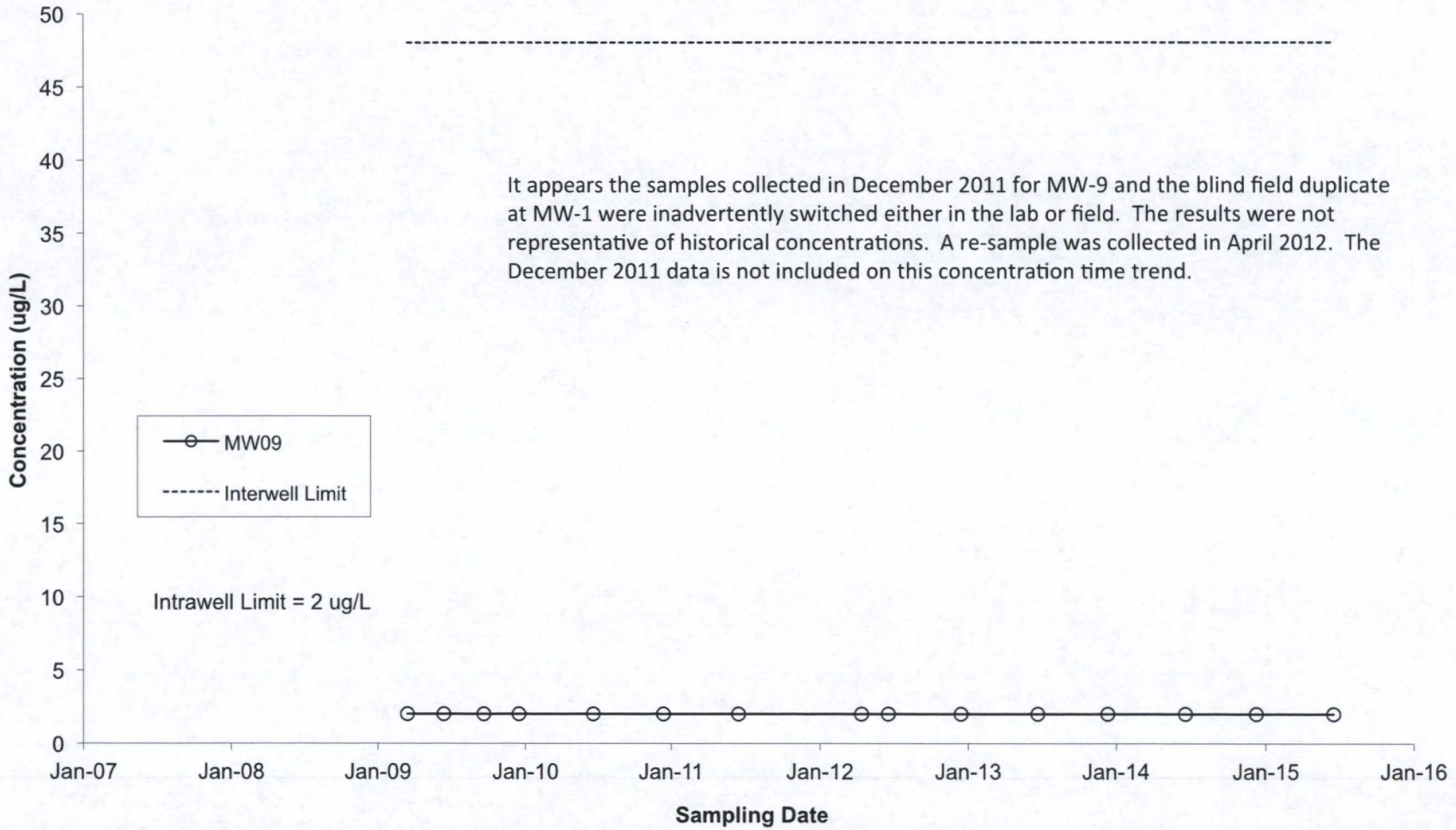
## Trichloroethene in Well MW09
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.



## Vinyl Chloride in Well MW09
## IPC/Roto-Rooter Landfill

Note: Non-detects are marked with a clear circle.




It appears the samples collected in December 2011 for MW-9 and the blind field duplicate at MW-1 were inadvertently switched either in the lab or field. The results were not representative of historical concentrations. A re-sample was collected in April 2012. The December 2011 data is not included on this concentration time trend.

# Attachment 6

## Data Validation Summaries

## Data Validation Checklist

| | |
|---|---|
| Date: | 1/12/2015 |
| Validator Name: | Mary Pearson (EIL) |
| Facility: | Interstate Pollution Control - Roto Rooter |
| Facility Location: | Rockford, Illinois |
| Event: | Dec-14 |
| Laboratory: | TestAmerica - Chicago |
| Sampling Dates: | 12/15/2014 |
| Laboratory Job No: | 500-89548-1 (Analysis Batch Numbers 269146 and 269611) |

| | Yes | No | NA |
|---|---|---|---|
| Were the correct analytical methodologies used? | ■ | ☐ | ☐ |
| Were all samples analyzed within the VOC hold time (14 days)? | ■ | ☐ | ☐ |
| Were contaminants detected in the associated laboratory blank(s)? | ☐ | ■ | ☐ |
| Were contaminants detected in the associated trip blank(s)? | ☐ | ■ | ☐ |
| Were contaminants detected in the associated field blank(s)? | ☐ | ■ | ☐ |
| Were surrogate recoveries within the appropriate control ranges? | ■ | ☐ | ☐ |
| Were laboratory control spikes within the appropriate control ranges? | ■ | ☐ | ☐ |
| Were field duplicate samples within 20% relative percent difference of the primary samples for all tested analytes? | ■ | ☐ | ☐ |

Blind field duplicate (MW7) was collected at MW1.

Note:
Matrix Spike (MS) / Matrix Spike Duplicate (MSD) analyzed at well MW6. The MS/MSD recoveries were within the acceptance ranges for all compounds, except:

Chloromethane (MS) recovery = 134%; Acceptance Limits = 63 - 133%
Indicates sample result may be biased high; however, chloromethane was not detected in the sample (MW6).

The recovery of chloromethane in the associated laboratory control sample was within the acceptance limits.

Duplicate Sample Evaluation
December 2014
IPC Roto-Rooter Site

| Parameter | Sample Date | Units | MW1 | Qualifier | Blind Field Duplicate | Qualifier | RPD |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| 1,1,2,2-Tetrachloroethane | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| 1,1,2-Trichloroethane | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| 1,1-Dichloroethane | 12/15/2014 | ug/L | 13 | | 13 | | 0% |
| 1,1-Dichloroethene | 12/15/2014 | ug/L | 6.8 | | 7.4 | | 8.5% |
| 1,2-Dichloroethane | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| 1,2-Dichloropropane | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| 2-Hexanone | 12/15/2014 | ug/L | 20 | U | 20 | U | 0% |
| Acetone | 12/15/2014 | ug/L | 20 | U | 20 | U | 0% |
| Benzene | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Bromodichloromethane | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Bromoform | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Bromomethane | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Carbon disulfide | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Carbon tetrachloride | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Chlorobenzene | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Chloroethane | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Chloroform | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Chloromethane | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| cis-1,2-Dichloroethene | 12/15/2014 | ug/L | 130 | | 130 | | 0% |
| cis-1,3-Dichloropropene | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Dibromochloromethane | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Ethylbenzene | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Methyl Ethyl Ketone | 12/15/2014 | ug/L | 20 | U | 20 | U | 0% |
| Methyl Isobutyl Ketone | 12/15/2014 | ug/L | 20 | U | 20 | U | 0% |
| Methylene Chloride | 12/15/2014 | ug/L | 10 | U | 10 | U | 0% |
| Styrene | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Tetrachloroethene | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Toluene | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| trans-1,2-Dichloroethene | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| trans-1,3-Dichloropropene | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |
| Trichloroethene | 12/15/2014 | ug/L | 12 | | 11 | | 8.7% |
| Vinyl chloride | 12/15/2014 | ug/L | 18 | | 18 | | 0% |
| Xylenes, Total | 12/15/2014 | ug/L | 5 | U | 5 | U | 0% |

Qualifier U - Not Detected

Chemicals of Concern are highlighted in gray.

The blind field duplicate (MW7) was taken at well MW1.

# Data Validation Checklist

| | |
|---|---|
| Date: | 7/31/2015 |
| Validator Name: | Mary Pearson (EIL) |
| Facility: | Interstate Pollution Control - Roto Rooter |
| Facility Location: | Rockford, Illinois |
| Event: | Jun-15 |
| Laboratory: | TestAmerica - Chicago |
| Sampling Dates: | 6/24/2015 |
| Laboratory Job No: | 500-97809-1 (Analysis Batch Numbers 294531 and 294534) |

| | Yes | No | NA |
|---|---|---|---|
| Were the correct analytical methodologies used? | ■ | ☐ | ☐ |
| Were all samples analyzed within the VOC hold time (14 days)? | ■ | ☐ | ☐ |
| Were contaminants detected in the associated laboratory blank(s)? | ☐ | ■ | ☐ |
| Were contaminants detected in the associated trip blank(s)? | ☐ | ■ | ☐ |
| Were contaminants detected in the associated field blank(s)? | ☐ | ■ | ☐ |
| Were surrogate recoveries within the appropriate control ranges? | ■ | ☐ | ☐ |
| Were laboratory control spikes within the appropriate control ranges? | ■ | ☐ | ☐ |
| Were field duplicate samples within 20% relative percent difference of the primary samples for all tested analytes? | ■ | ☐ | ☐ |

Blind field duplicate (MW7) was collected at MW1.

Note:
Matrix Spike (MS) / Matrix Spike Duplicate (MSD) analyzed at well MW6. The MS/MSD recoveries were within the acceptance ranges for all compounds.

Duplicate Sample Evaluation
June 2015
IPC Roto-Rooter Site

| Parameter | Sample Date | Units | MW1 | Qualifier | Blind Field Duplicate | Qualifier | RPD |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| 1,1,2,2-Tetrachloroethane | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| 1,1,2-Trichloroethane | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| 1,1-Dichloroethane | 6/24/2015 | ug/L | 11 | | 11 | | 0% |
| 1,1-Dichloroethene | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| 1,2-Dichloroethane | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| 1,2-Dichloropropane | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| 2-Hexanone | 6/24/2015 | ug/L | 20 | U | 20 | U | 0% |
| Acetone | 6/24/2015 | ug/L | 20 | U | 20 | U | 0% |
| Benzene | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Bromodichloromethane | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Bromoform | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Bromomethane | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Carbon disulfide | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Carbon tetrachloride | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Chlorobenzene | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Chloroethane | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Chloroform | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Chloromethane | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| cis-1,2-Dichloroethene | 6/24/2015 | ug/L | 86 | | 89 | | 3.4% |
| cis-1,3-Dichloropropene | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Dibromochloromethane | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Ethylbenzene | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Methyl Ethyl Ketone | 6/24/2015 | ug/L | 20 | U | 20 | U | 0% |
| Methyl Isobutyl Ketone | 6/24/2015 | ug/L | 20 | U | 20 | U | 0% |
| Methylene Chloride | 6/24/2015 | ug/L | 10 | U | 10 | U | 0% |
| Styrene | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Tetrachloroethene | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Toluene | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| trans-1,2-Dichloroethene | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| trans-1,3-Dichloropropene | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |
| Trichloroethene | 6/24/2015 | ug/L | 7 | | 7 | | 0% |
| Vinyl chloride | 6/24/2015 | ug/L | 25 | | 27 | | 7.7% |
| Xylenes, Total | 6/24/2015 | ug/L | 5 | U | 5 | U | 0% |

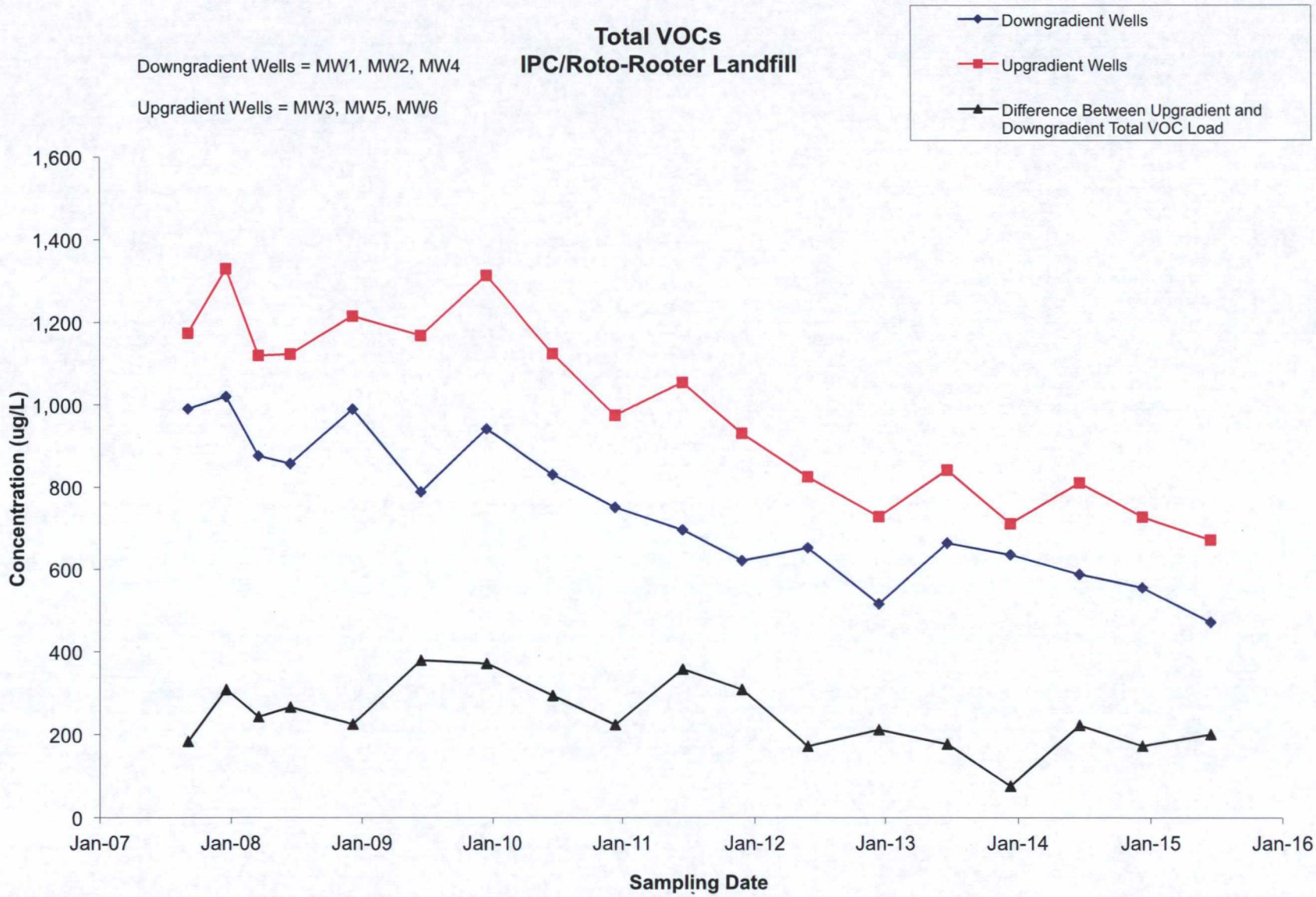
Qualifier U - Not Detected

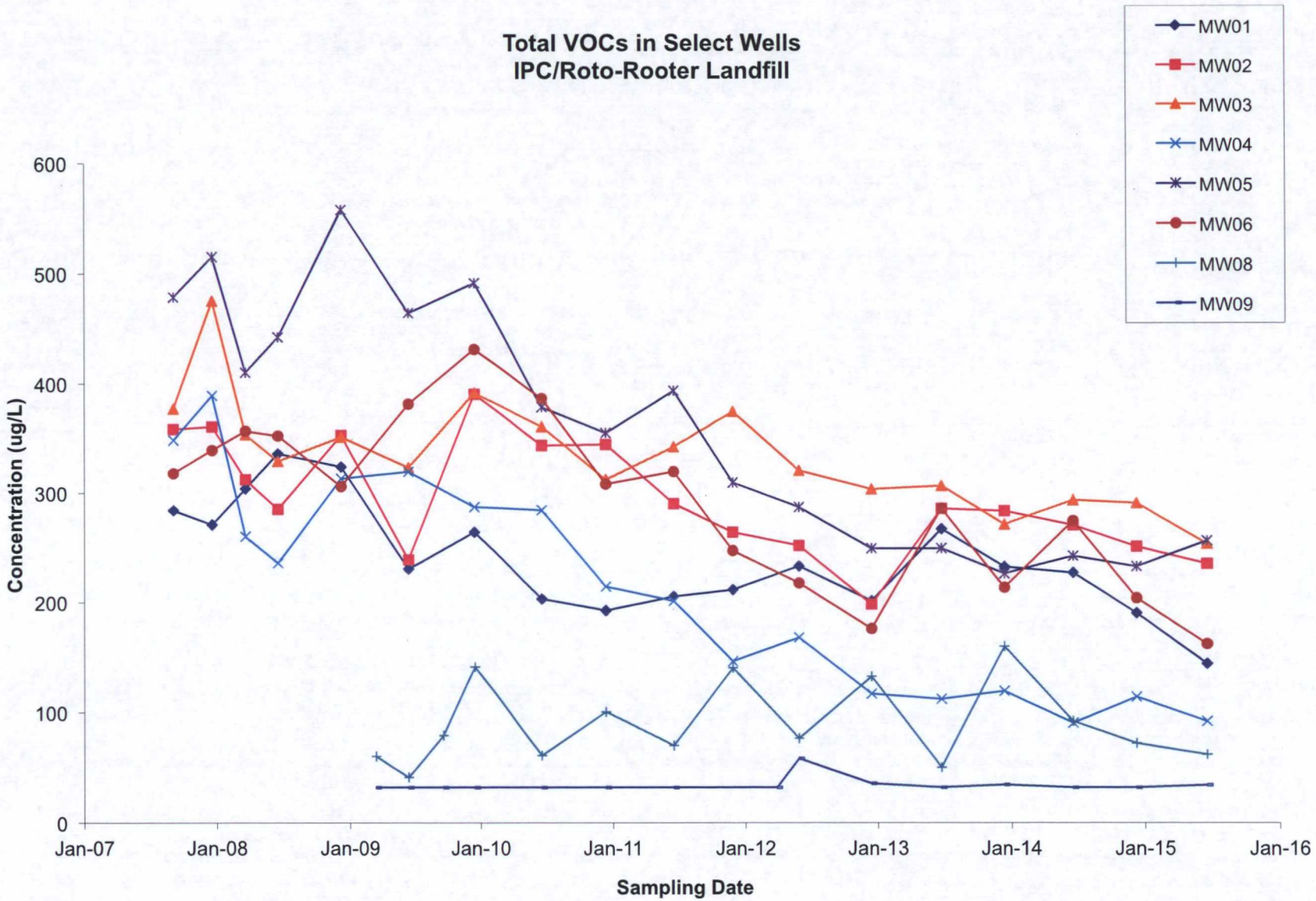
Chemicals of Concern are highlighted in gray.

The blind field duplicate (MW7) was taken at well MW1.

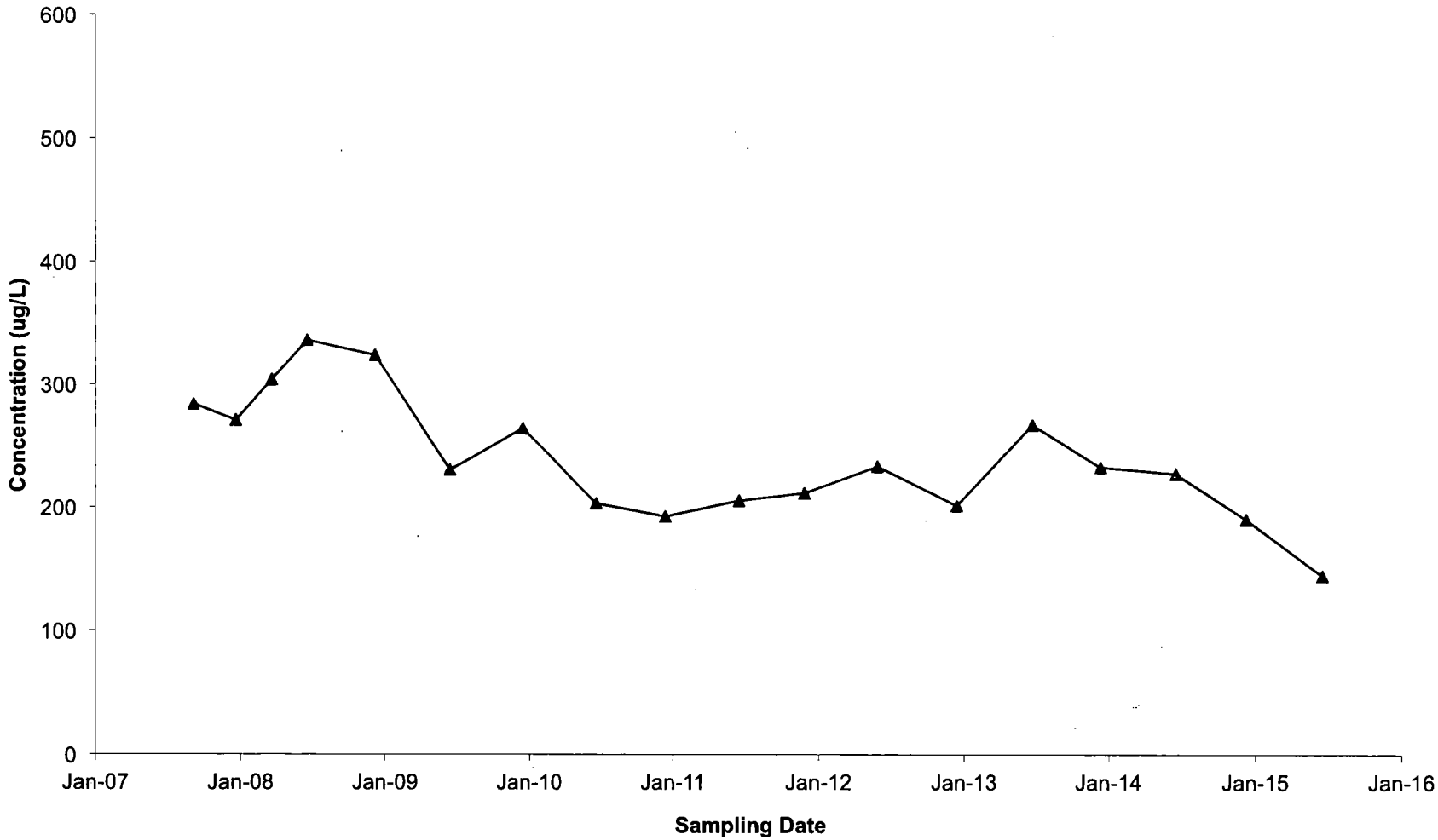
## Attachment 7

## Total VOC Load Concentration Time Trends

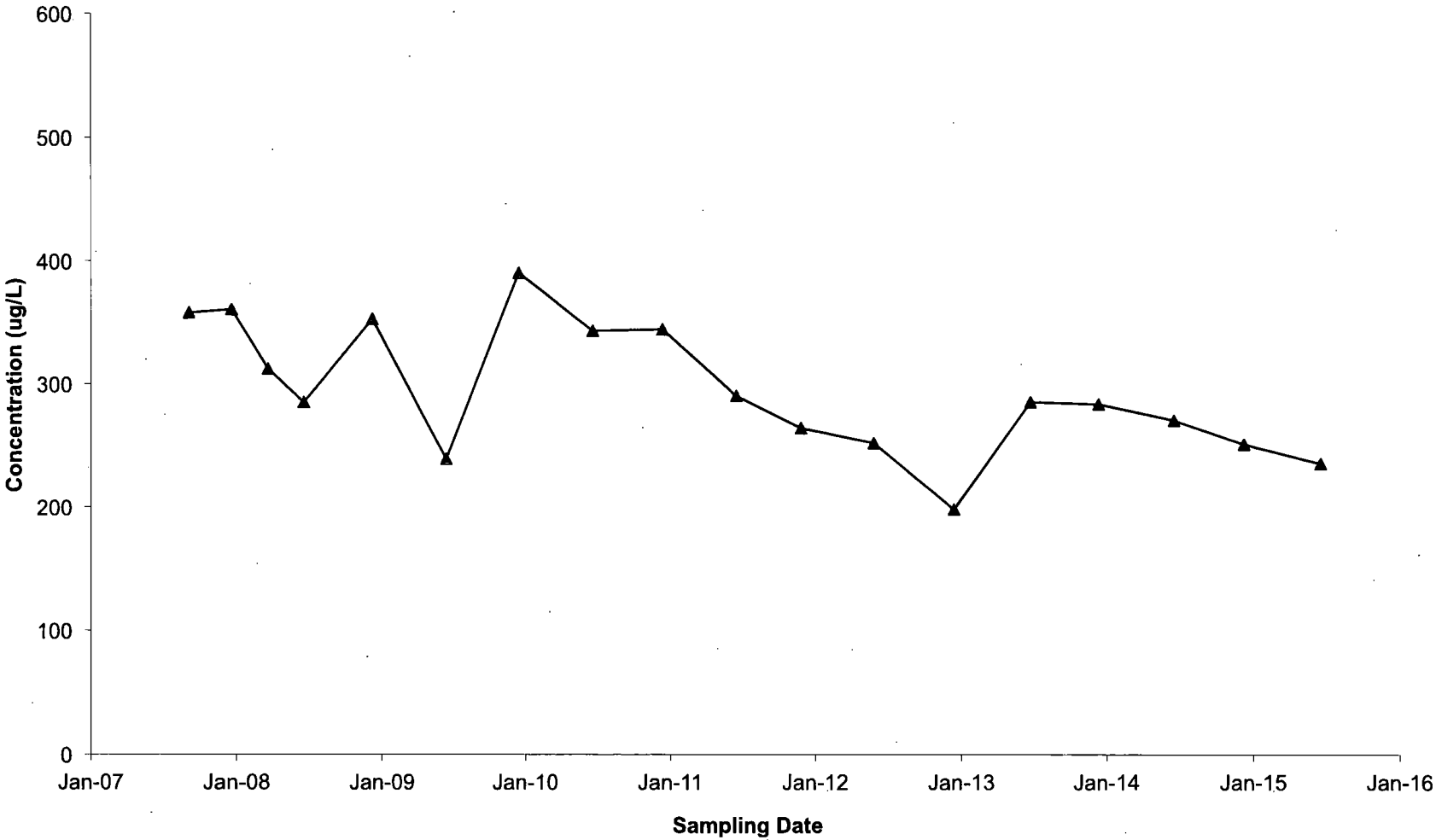

Total VOCs
IPC/Roto-Rooter Landfill
Downgradient Wells = MW1, MW2, MW4
Upgradient Wells = MW3, MW5, MW6
Downgradient Wells
Upgradient Wells
Difference Between Upgradient and Downgradient Total VOC Load
Concentration (ug/L)
1,600
1,400
1,200
1,000
800
600
400
200
0
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Sampling Date


Total VOCs in Select Wells
IPC/Roto-Rooter Landfill
MW01
MW02
MW03
MW04
MW05
MW06
MW08
MW09
600
500
400
300
200
100
0
Concentration (ug/L)
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Sampling Date

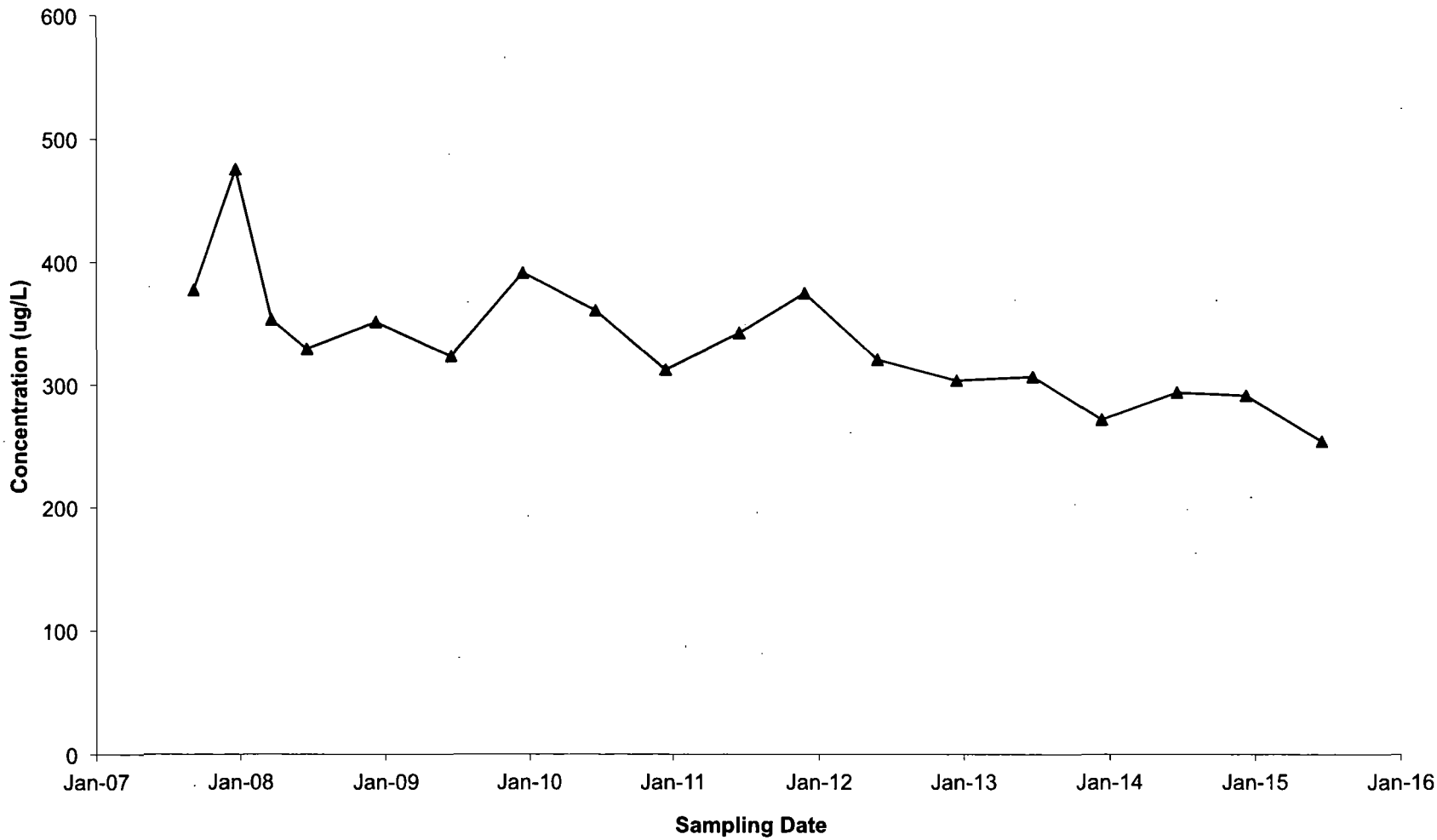
**Total VOCs in Well MW01**
**IPC/Roto-Rooter Landfill**



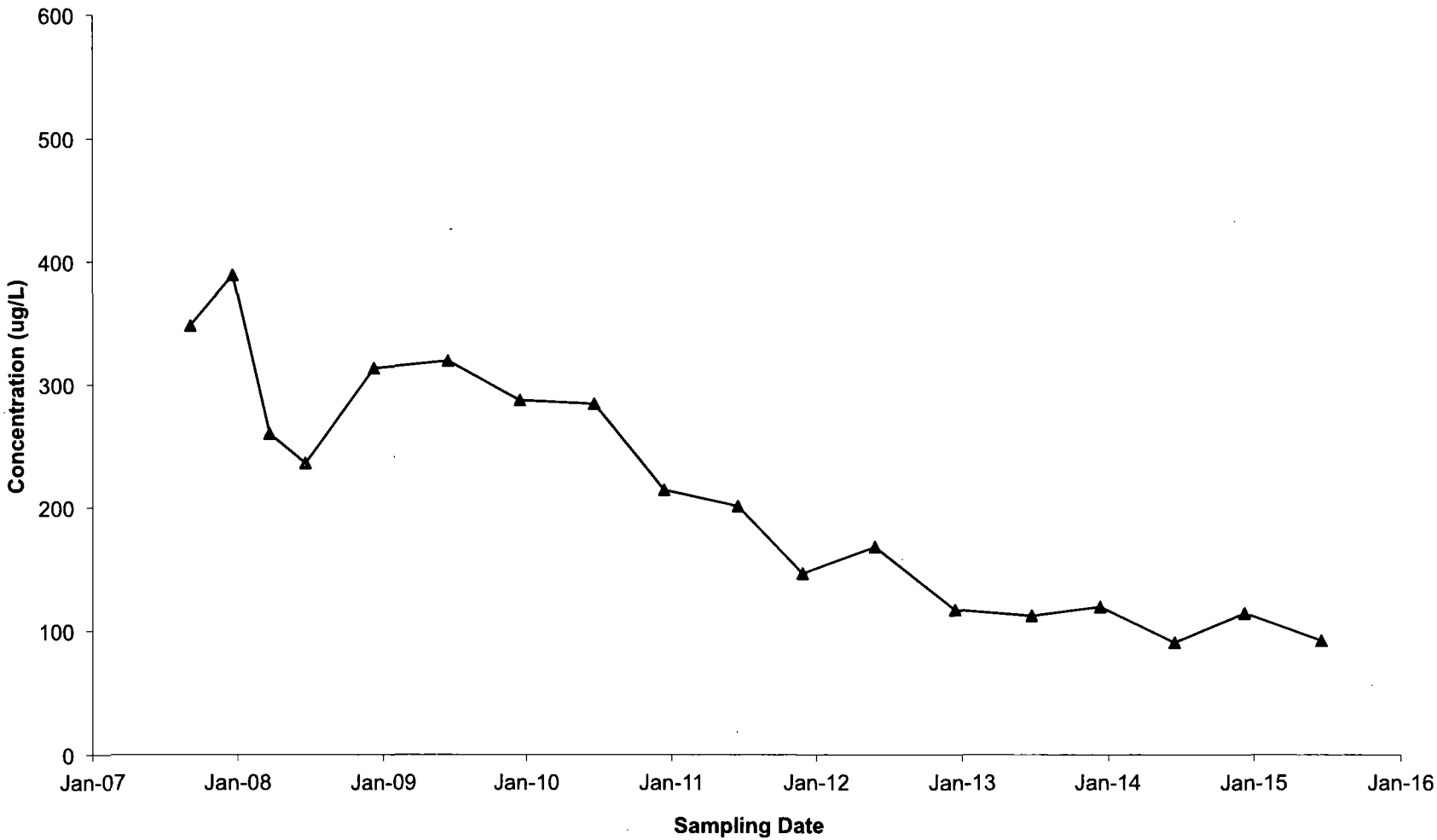
**Total VOCs in Well MW02**
**IPC/Roto-Rooter Landfill**



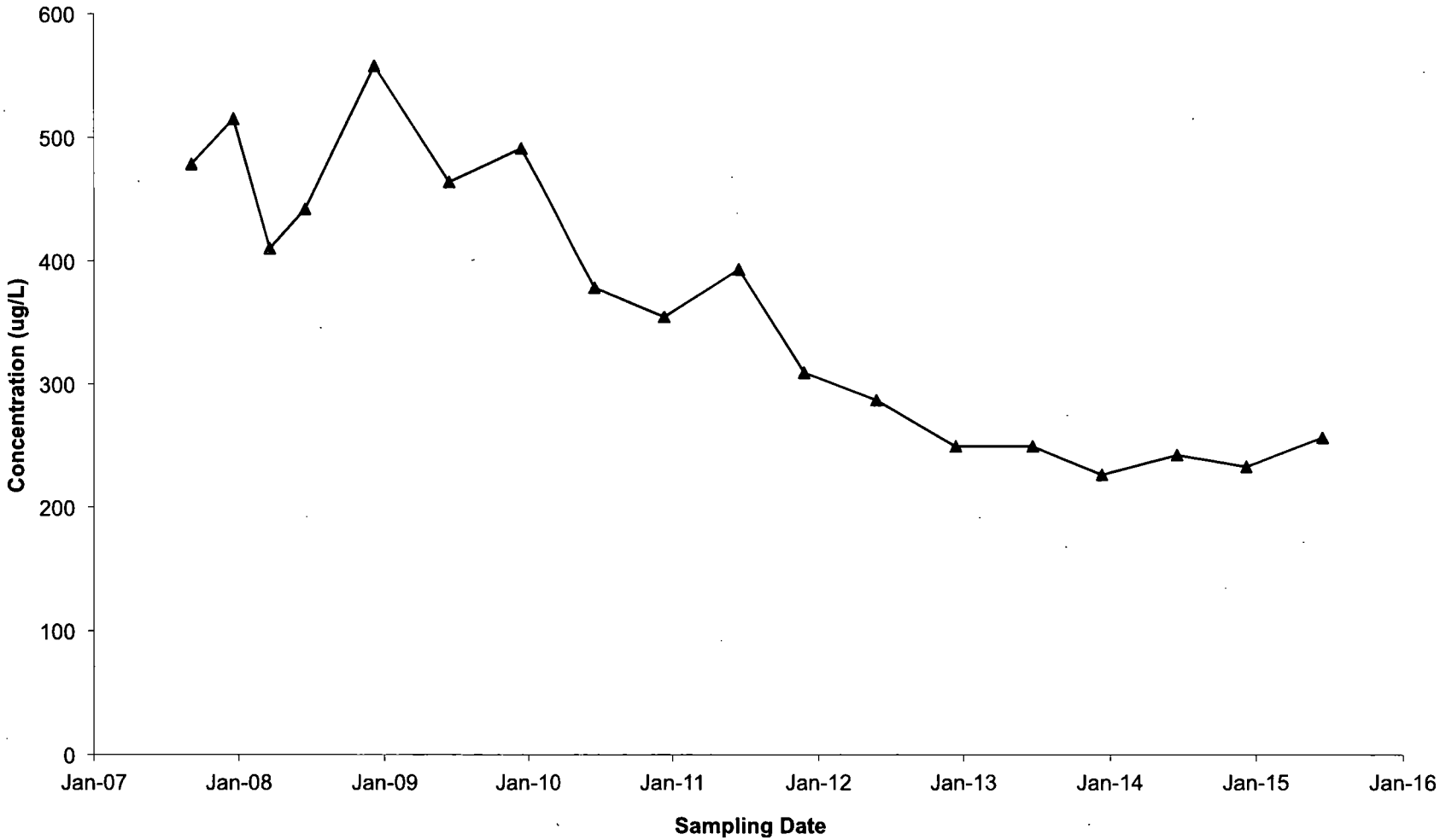
**Total VOCs in Well MW03**
**IPC/Roto-Rooter Landfill**



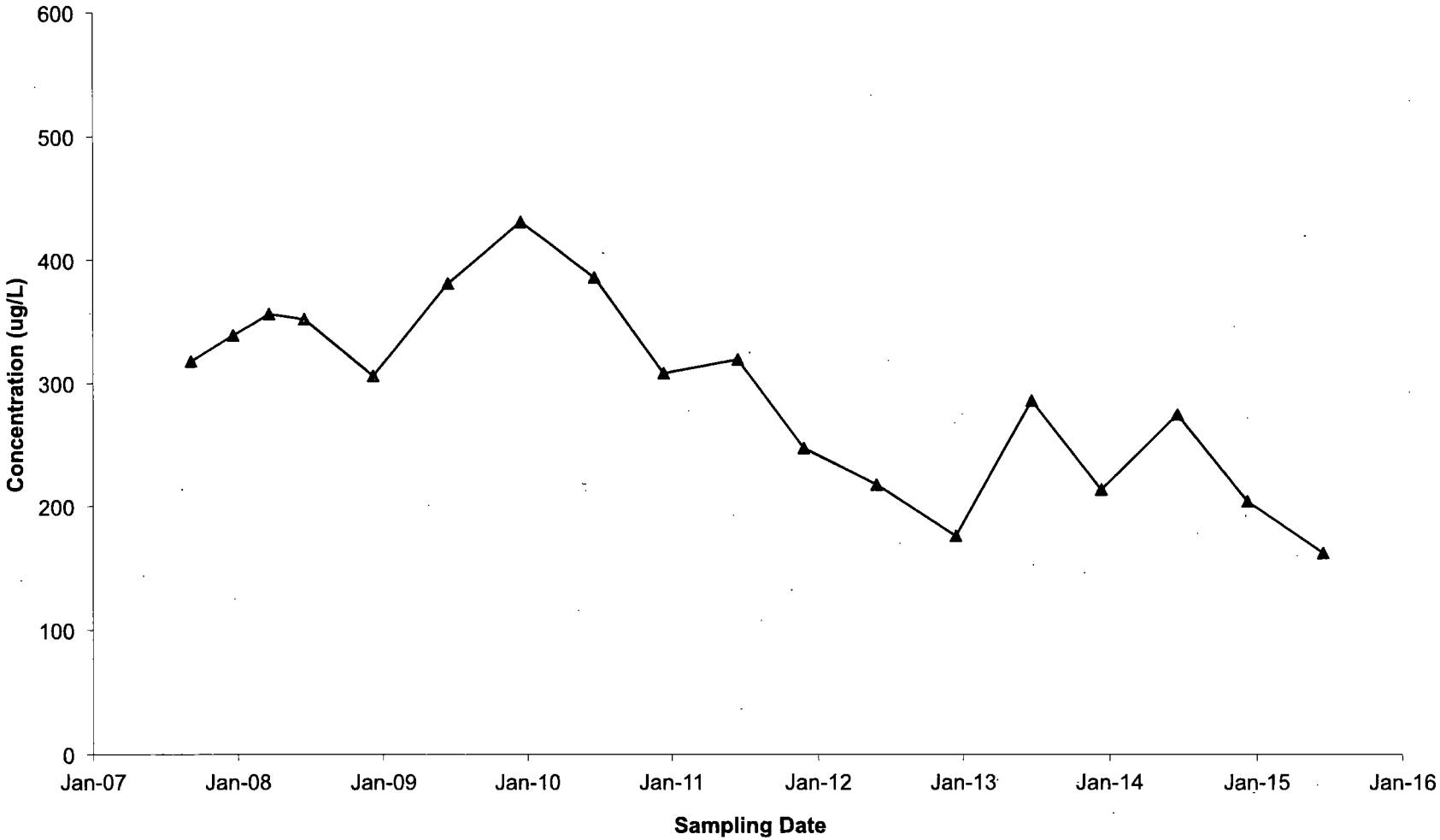
**Total VOCs in Well MW04**
**IPC/Roto-Rooter Landfill**



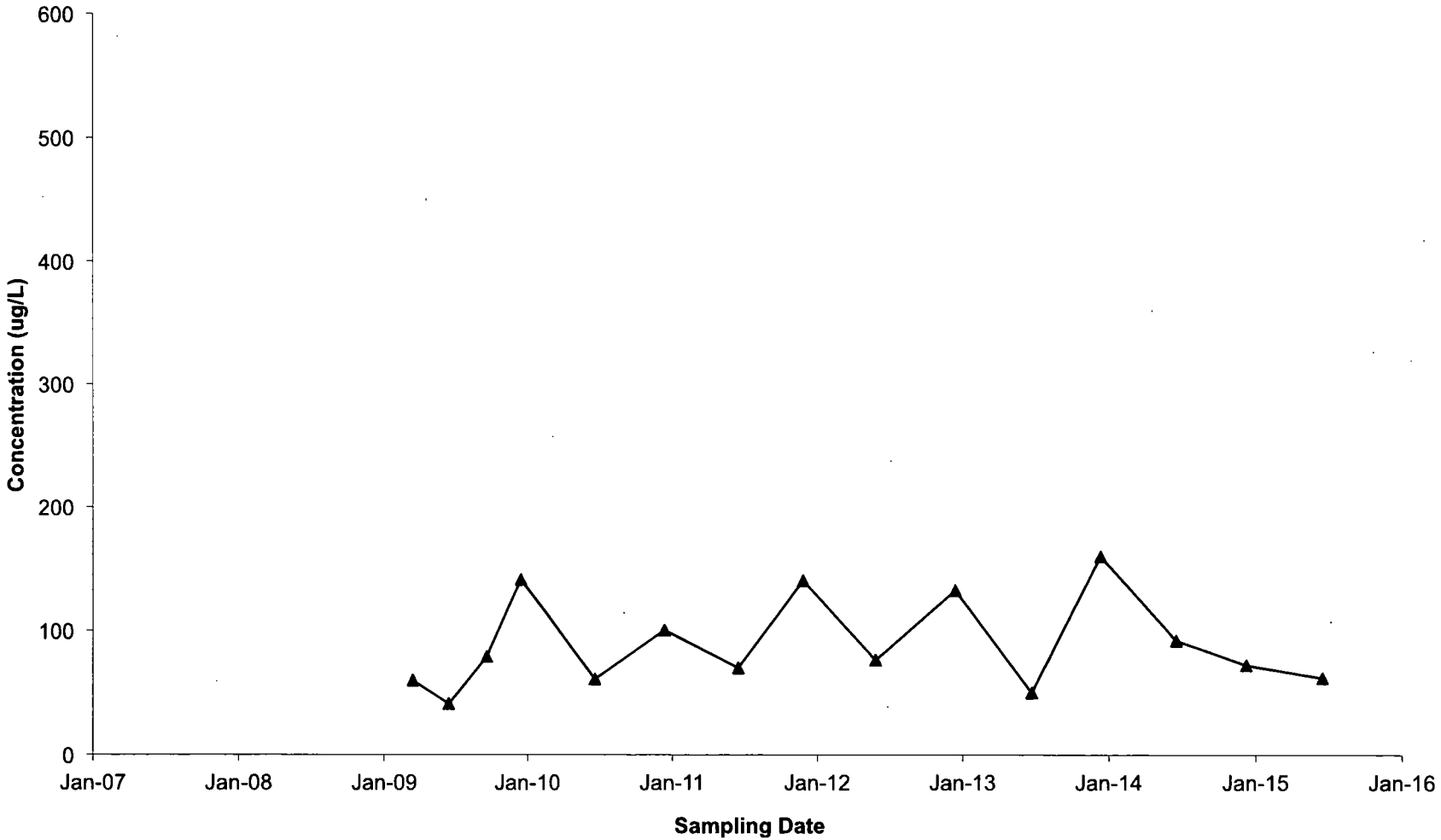
**Total VOCs in Well MW05**
**IPC/Roto-Rooter Landfill**



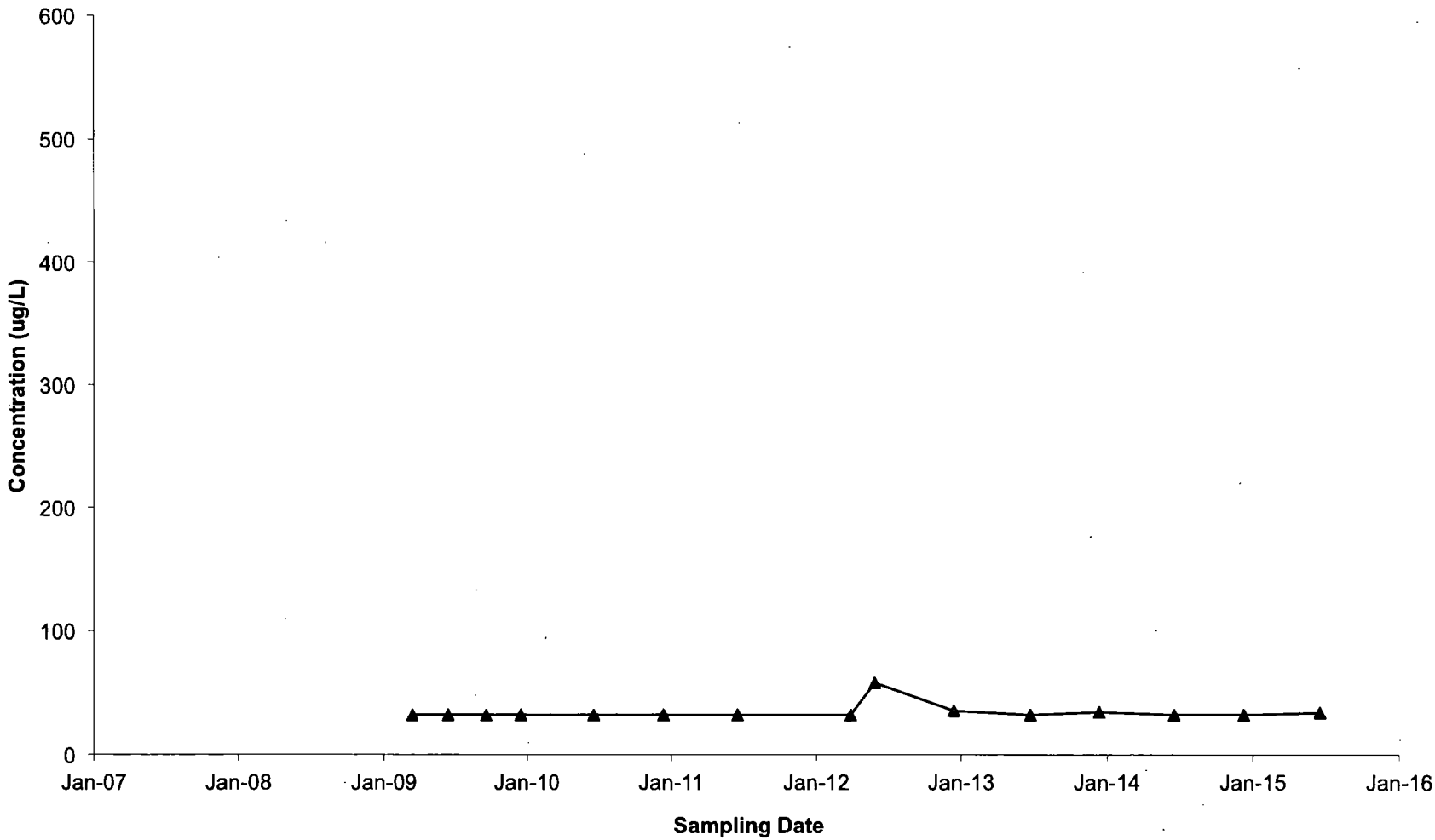
**Total VOCs in Well MW06**
**IPC/Roto-Rooter Landfill**



**Total VOCs in Well MW08**
**IPC/Roto-Rooter Landfill**

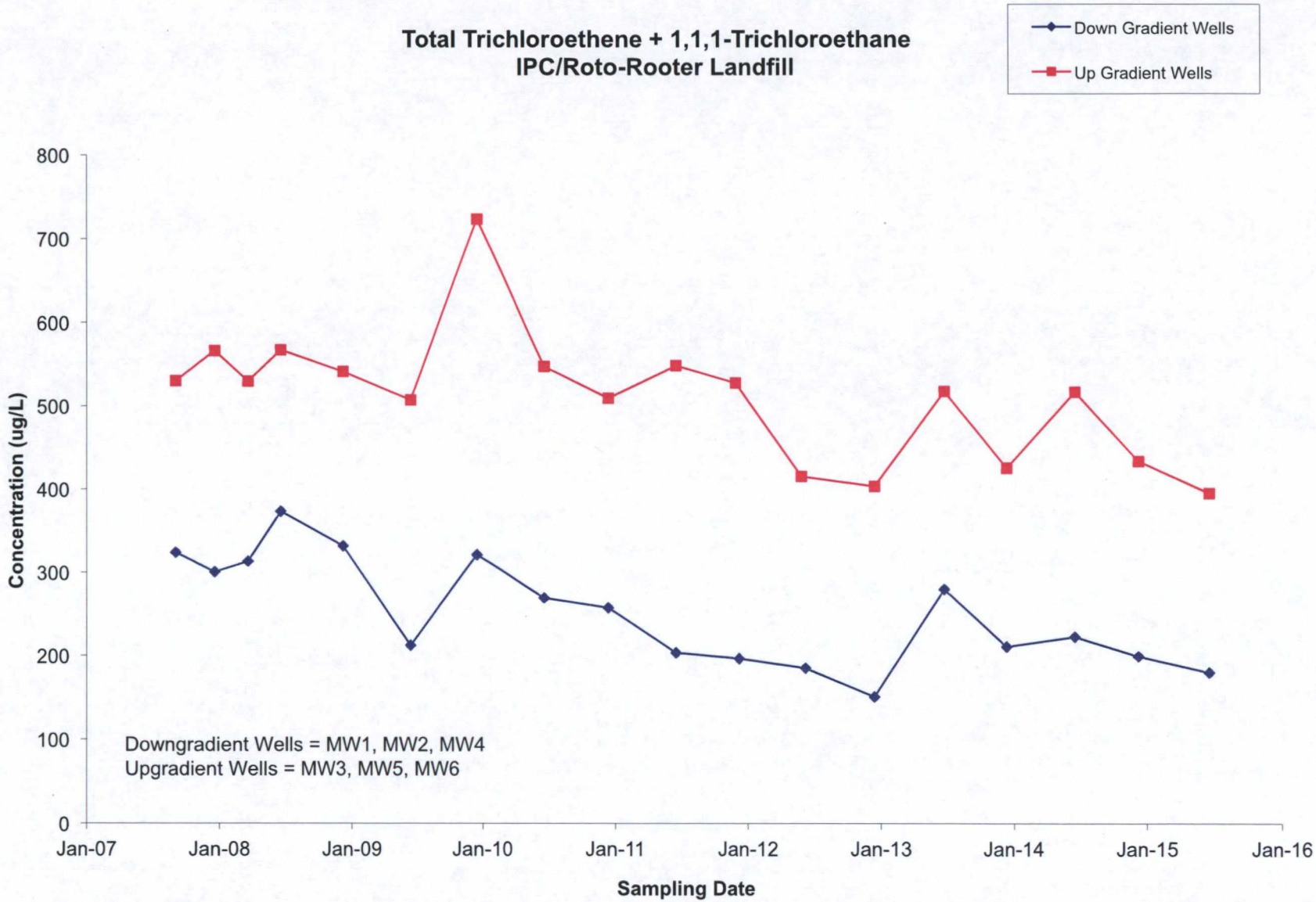


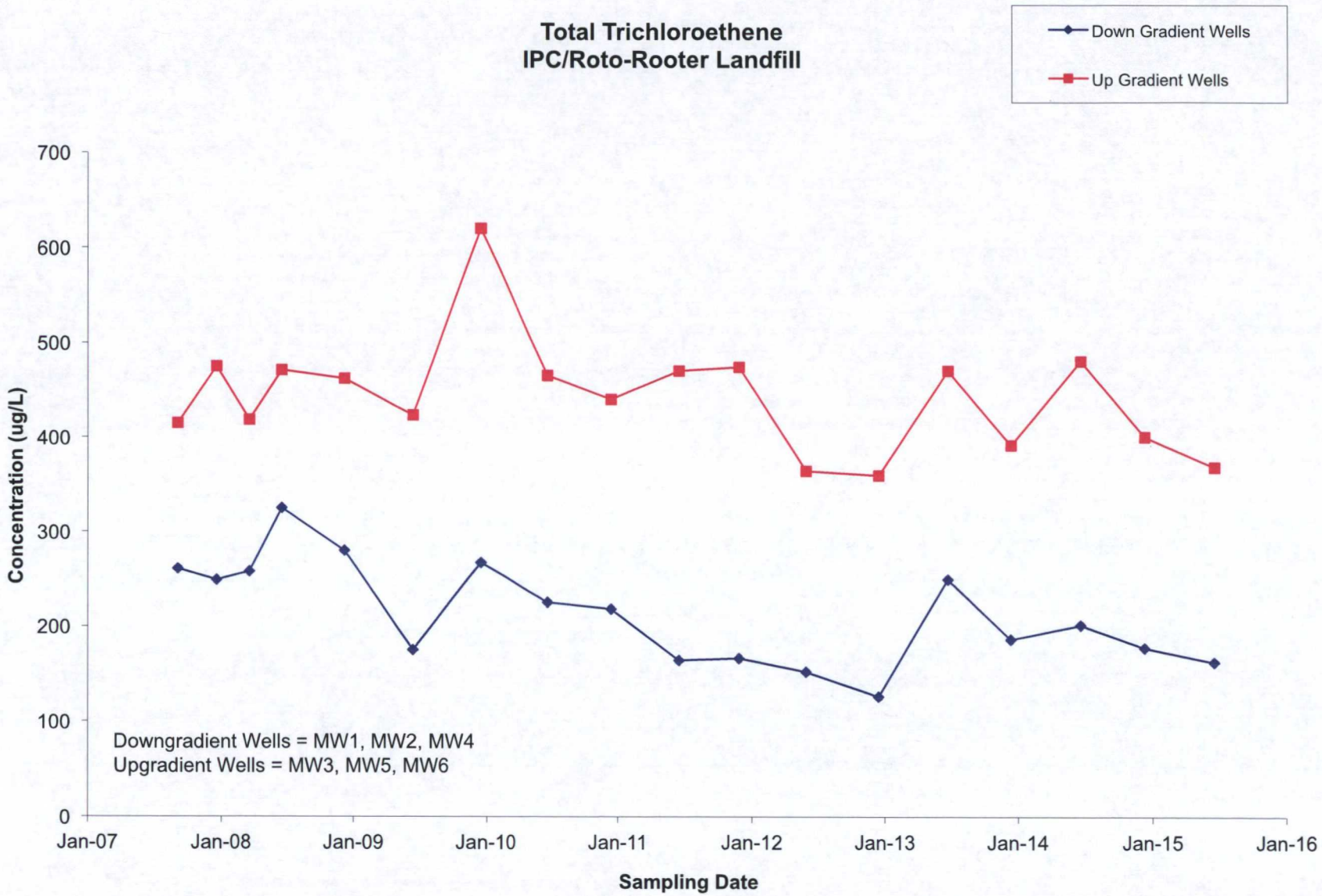
**Total VOCs in Well MW09**
**IPC/Roto-Rooter Landfill**

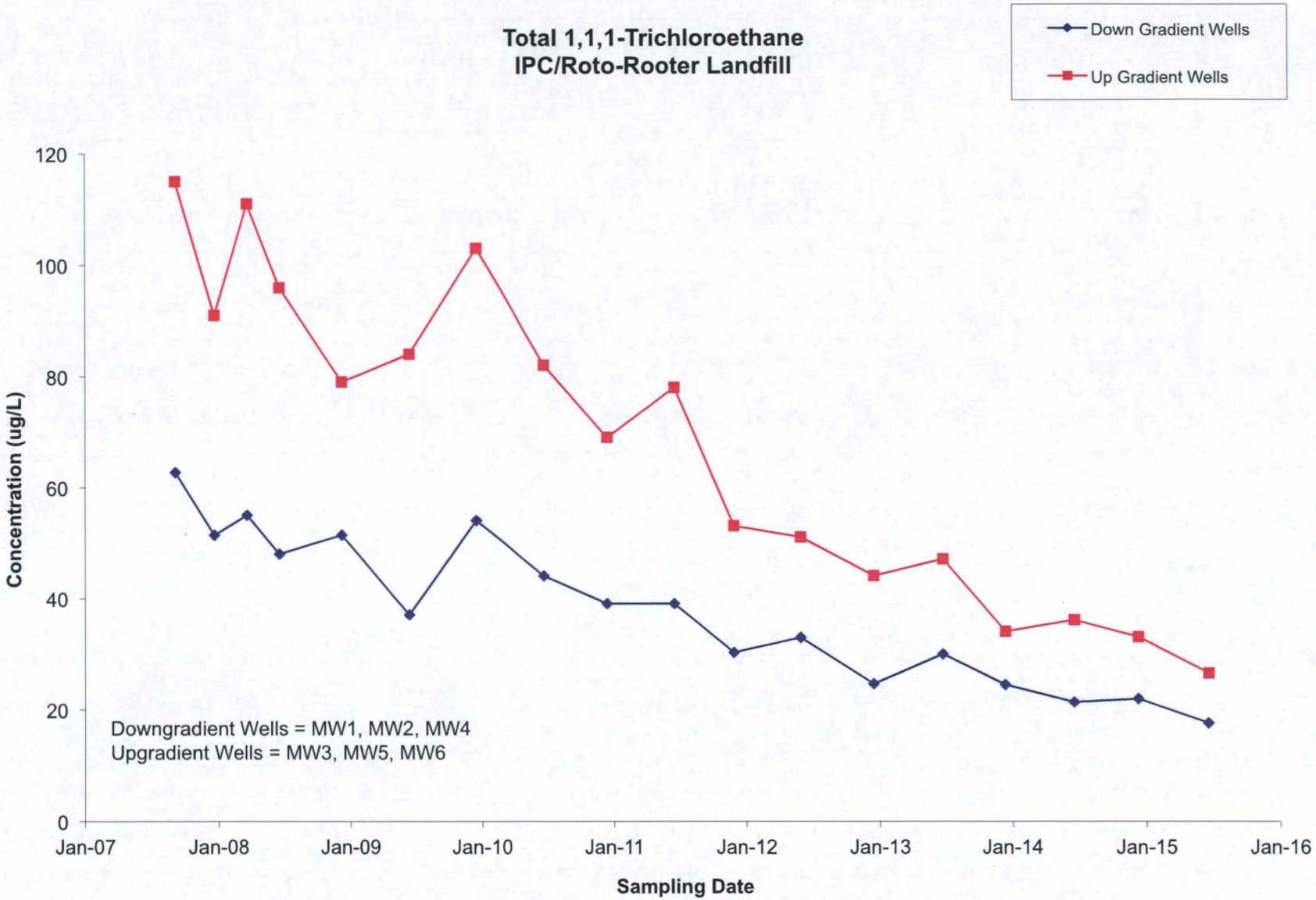


## Attachment 8

## Total VOC Load Trends (1,1,1-TCA plus TCE only)


Total Trichloroethene + 1,1,1-Trichloroethane
IPC/Roto-Rooter Landfill
Down Gradient Wells
Up Gradient Wells
800
700
600
500
400
300
200
100
0
Concentration (ug/L)
Downgradient Wells = MW1, MW2, MW4
Upgradient Wells = MW3, MW5, MW6
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Sampling Date


Total Trichloroethene
IPC/Roto-Rooter Landfill
Down Gradient Wells
Up Gradient Wells
700
600
500
400
300
200
100
0
Concentration (ug/L)
Downgradient Wells = MW1, MW2, MW4
Upgradient Wells = MW3, MW5, MW6
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Sampling Date


Total 1,1,1-Trichloroethane
IPC/Roto-Rooter Landfill
Down Gradient Wells
Up Gradient Wells
120
100
80
60
40
20
0
Concentration (ug/L)
Downgradient Wells = MW1, MW2, MW4
Upgradient Wells = MW3, MW5, MW6
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Sampling Date